1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

2. COUNTRY AND PEOPLE

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The zones of land surface into which the territory divides itself, though they belong less to history than to geography, may be briefly mentioned since they deeply affect the life of the inhabitants and reflect their ethnology.

First comes the mountain belt in the north and north-east. A part of the main Armenian and Zagros system, it formed in 1900 the sanjaq of Sulaymaniya and a large part of those of Mosul and Shahrizur. This terrain is wholly un-Arabian, the population solidly Kurdish. Its mountains, mainly barren but carrying also areas of forest, are divided by deep valleys sometimes widening into plains. The hardy inhabitants of its hundreds of villages produce crops of grain, rice, vegetables, fruit, and tobacco, grown on the water of springs and rivulets and the relatively abundant rain. The climate is equable in summer, harsh in winter, the landscape commonly of striking beauty.

In the flattish submontane area of Mosul and Shahrizur sanjaqs lie treeless uplands and the lower courses of the Greater and Lesser Zabs. Here, in ancient Assyria, village-dwelling cultivators grow spring grain crops on rain and, in places, by water-lift from the rivers. The country is intermediate in environment and race between the mountain zone and the hot flatlands of central 'Iraq. The latter, the most extensive and most characteristic region of the country, covered the sanjaqs of Baghdad and Karbalā and most of Ḥilla. Everywhere dead flat and stoneless, it is unblessed, save in rare seasons, by rainfall sufficient for crop-growing, and must needs be cultivated by lift or flow from controlled canals or flood-channels. The crops are winter and summer grain and vegetables, locally some rice, and vast gardens of dates. The population, entirely Arab, lives in mud-built villages or in clusters of hair tents or reed huts.

The equally flat silt-country of the lower Tigris–Euphrates delta, astride and below the prehistoric coast-line, covered the southern part of the Ḥilla sanjaq and almost the whole of the three sanjaqs of 'Amara, Muntafiq, and Baṣra. It was characterized by a higher proportion of reed dwellings, fewer mud villages: by lesser crops of wheat and barley, but extensive rice-growing in the flooded areas: by miles of date gardens, and by a special way of life developed by the buffalo breeders, mat weavers, and fishermen in the great marshes.

Ignoring the Arabian dependencies of Baṣra, two other zones remain to be mentioned. One is that of the Shaṭṭ al-'Arab in the Baṣra sanjaq, with its miles of ordered date gardens in a lean strip between river and desert: the other is that of the arid steppe

1s Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

country, often too rainless to produce even the minimum of grazing. It lies, equal in area to the rest of 'Iraq, in the Shamiya desert south-west and west of Euphrates, in the upper Jazira, east of Tigris below Baghdad, and above it astride the Jabal Ḥamrin. These wastes belonged to the true camel-breeding Arab nomads; their inlying fringes, near to the rivers, were the home of the half-settled shepherd sections of cultivating tribes.

The inhabitants of all these regions varied widely in the nearness of their approach to urban civilization and the reach of government. Nearest came the citizens of the towns: then the settled village-dwellers, then the tribal cultivators in their clusters of dwellings, then the marshmen, the half-settled shepherds on the desert fringe, and finally the pure bedouin. These last were and are by far the least numerous element; to regard 'Iraq as largely a bedouin territory is a common error, since much of the country has always afforded the possibility of settled life, and bedouin are found only where no other form of life is possible.

Of the population of the three wilayas, no reliable estimate could be given then or later. The census in Turkish times was conducted, with feeble and venal inefficiency, only in towns and only for conscription purposes. The figures supplied by tribesmen or urban community heads varied with their fears or hopes of liability or benefit. The wilaya of Baṣra in 1900, excluding its Arabian areas, may have contained half a million souls; that of Baghdad perhaps a million and a quarter, that of Mosul less than half a million. A total of midway between two and two and a half million people may fairly be estimated.

The races of which the population consisted, and by each of which some contribution was made, were various. Arabs formed the great majority. But who were these? The folk even of earliest Arabia were of mixed physical types, and it is as idle to look for 'racial purity' in their later offshoots as in other races of the modern world. The Arabs of 'Iraq, in 1900 as today, were Arabic-speaking "Iraqis': a unified amalgam containing physical elements of every population who, from prehistory, had entered the river valleys as invaders or immigrants, and had been assimilated to form that 'Iraqi community which Arabs of Arabia had subjugated in the seventh century A.D. and, by vigour of their arms and faith, had turned into 'Arabs' like themselves. The 'Iraqi people by the end of the nineteenth century were oblivious of—would have denied—any other cultural or ethnic associations.

Within their community the shared tradition and pride of race far outweighed, in most relationships, the differences created by variety of environment, dialect, and material interest: yet these, too, could be formidable as between town and tribe, and as between

1: Longrigg G-4, 5 (ca. 1915-1940) MH1-Iraq MH1

241 [312] advantage of extensive fertile tracts and abundant water, it made but a poor showing in the exports it permitted, and the low standard of life it sustained. It was, and is, possible indeed to exaggerate the potentialities of 'Iraq agriculture;[1] areas cultivable by flow or lift-irrigation are not unlimited;[2] even with the best of conservation, its river-water resources can never suffice, at one time, for all or nearly all its irrigable lands; and the rains[3] upon which northern 'Iraq wholly depends are capricious and rarely sufficient. Barrage-irrigation could never be as easily achieved as in Egypt, and its cost must always place at a disadvantage, against a Canada or a Russia, countries which like central 'Iraq are dependent on it. The indigenous 'Moroccan' and the invading 'Najdi' locust were an annual menace to crops. The 'Iraqi *fallaḥ*, even when helped by a large measure of mechanization, was and is no match for the European or North American as a producer.

511 In the 'Iraq of 1900, at any rate, there were reasons enough for agricultural, and therefore universal, poverty. Conditions were tolerable in the rain-fed areas of Mosul and Shahrizur, where village organization prevailed, taxation was reasonable, the dangers of flooding unknown, land-holdings often small and personal: tolerable, too, on other lines, in the Shaṭṭ al-'Arab date-belt where security was good, society well rooted, and the growers' skill highly developed. If even in these two zones a lifetime of debt and near-starvation were the lot of most men, elsewhere, throughout lower 'Iraq, neither the social structure nor Government measures towards land settlement had produced conditions within which progress was possible. Security was habitually threatened over great areas by the aggression of neighbours or the depredations of the *badu* and their hungry camels. Even where tenure was reasonably secure, the prevalent crop-sharing system supplied but the barest living to the cultivator: the shaykhs and their agents, absentee landlords, and a blindly grasping Government combined to remove both the reward of past and the incentive for future toil. No shaykh and no landlord conceived a duty of improving productivity; wherever local agriculture called for combined and organized effort—silt-clearing, flood-bank protection, locust warfare, drainage—they provided no capital, no superior guidance, little co-ordination, no sense of social obligation. Government

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[1] It may be that, even in the legendary past, agricultural prosperity was somewhat less than is vaunted: the rains were no more copious, floods as ruinous, the swamps as vast, the *badu* as rapacious; and the great canals, to judge by the lack of surviving ruined headworks, may have been, after all, only flood-channels annually silt-cleared.

[2] Some 20 million acres in irrigable areas (south and central 'Iraq), 10 million of rain-lands in the north. [311]

[3] The annual average for Mosul area is some 450 mm., and more in the hills: in central 'Iraq, 150 mm.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

Their solution must depend on the simultaneous and widespread working of forces of rural education, reliable security, sound land tenure and properly financed enterprise. Meanwhile, the annual locust campaigns in northern 'Iraq were developed jointly with neighbouring countries. Progress was made in hill-country tobacco-growing and treatment of the leaf on modern lines. Silk experiments continued, though with scant success. Cotton-growing was still restricted by unskilled cultivation and by pests. The produce of the great date-groves of southern 'Iraq was bringing difficult problems not only of improved culture but of organization and disposal, and civil war raged between growers and packers. Of the attempts at modern estate development (p. 17) none had yet succeeded. The projected Agricultural Bank could not, it was found, be inaugurated until clearer land-titles gave security for loans. The Asfar Concession was limited and revised to provide for the acquisition and development by the Company of the Latifiya estate, south of Baghdad; the Irrigation Department constructed the main canal at the Company's expense, and promising operations on the 65,000-acre area began under European management.

The main agricultural development of the time was that of riverside pump irrigation. This had been initiated before 1914 and moderately extended between 1920 and 1925. Aided by important fiscal privileges, it began thereafter to show remarkable increase, to the point of becoming a main feature of 'Iraq's economy. Installations in the liwās of Baghdad, Diwaniya, Kut, 'Amara, and Diyalā had by the end of 1930 brought the number of pumps to over 2,000, representing a million-acre increase of cultivable area. There was evident value in thus attracting capital to agriculture, utilizing the cheap oil available, exploiting the high-lying virgin lands, and avoiding the precarious chances of flood irrigation. But the development was not free from trouble. The attraction of cultivators to new lands rather diverted them from old than increased their numbers; improvement in yields, due to fresh lands and secure irrigation, was not matched by superior type or purity of crops. Estate management attempted by townsmen was sometimes short-sighted and uneconomic, and the hard times and low prices of 1930–1 brought ruin to many hopeful enterprises. These, moreover, jointly undertaken by an urban capitalist—often a Deputy or city notable—and a tribal shaykh or *sirkal*, were productive of puzzling difficulties of land tenure and rights. Neither the traditional occupancy of the tribe, nor the share claimed by the incoming capitalist, had any basis in law. Agreements between the parties often proved unworkable, and in practice did not always bring blessings to the cultivators. These conditions indicated, yet

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

VII

AL-ISTIQLAL AL-TAMM

1. ASSESSMENT IN 1932

PREVIOUS chapters have shown how great a distance 'Iraq had travelled by 1932 from its age-long status as a group of three remote and backward Turkish wilayas in northern Arabia. The moment of its completion of twelve years as a constitutional State since the first 'Iraq Government was set up, and its achievement of full independence, may not be ill chosen for an assessment of its accomplishment and its prospects as they then appeared.

A Kingdom of 'Iraq had been created, and was world-recognized. It had secured beyond future questioning its northern third—the Mosul wilaya—claimed with determination by others; it had fixed or was fixing its boundaries to east and west; it had gone far to establish with its neighbours firm and friendly relations, the perfecting of which should be no formidable task for succeeding years. Within 'Iraq, the nation enjoyed great and evident advantages. It had neither a menacing over-population like Egypt, nor an exiguous territory like the Lebanon, nor a mere handful of oases in vast deserts like Sa'udi Arabia. It had abundant space, great rivers, famous fertility, a healthy if severe climate, and the certainty of increasing population. Its people were in no way below the average of humanity in moral qualities, and above it in intelligence. The appreciation of possible progress and the desire for it were widespread. And in the matter of administration, whatever disobedience or local disloyalty might lurk within its borders, the Baghdad Government's claim to authority was disputed by no rival pretensions; its rule was effective in nearly the whole territory.

At this point, however, reflection suggests some qualification: the picture of peaceful unquestioned sway over all 'Iraq is too favourable. The areas of Arab steppe and Kurdish mountain in which the writ of Government scarcely ran can indeed be ignored: its power would doubtless extend into these with developed forces and communications, and with time. But much must be altered before the 'Iraqi public in the main areas of the country came to resemble, for better or worse, that of a modern nation in which Government could operate with beneficence, and which would both permit and appreciate such operation. Without insistence on a uniformity which could be valueless or deadening, the political health and administrative manageability of a nation are inconsistent with the presence either of enclaves of too deeply diverse cultures

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

existed in Baṣra and Baghdad and their suburbs; and the telephone and telegraph had become familiar or indispensable to all classes save the most backward. The new wireless transmitting station completed in 1951 at Abu Ghurayb, with the most modern design and range, secured communication with Europe and America and was used for the national broadcasting. The Development Board planned an expenditure of ID 2 million on telecommunications between 1951 and 1956.

Progress in road improvement was delayed during 1946–50 by the financial narrowness of the post-war years. This and bridge-building formed an important part of the projects[1] intended for realization in 1951–6 through the Development Board. The completion of this programme would fundamentally transform the conditions of transport and travel in 'Iraq, with far-reaching economic consequences. The 'Nairn route' to Damascus was still in regular use; its traffic was highly organized, with air-conditioned vehicles, by the original company and its imitators. The Rawanduz road was little used; the tracks leading into Najd and Persia carried no important traffic; and the trunk route to Jordan or Palestine (p. 321) lost its value when the State of Israel blocked the sea-outlet it had offered.

5. TOWN AND COUNTRY, MID-CENTURY

The population of 'Iraq, declared by the census of 1947 to be 4,800,000, had by then doubled since the century opened. Its distribution[2] was in general unchanged as between towns, inlying villages, tribal country districts, and nomads; about a quarter were town-dwellers, a fifteenth nomads, the remainder settled cultivators. Wide areas of steppe desert and of barren mountain remained, as for the foreseeable future they must, almost uninhabited; the widest of such regions, those of the administratively separated northern and southern provinces of the Shamiya desert, amounted to some two-fifths of 'Iraq's whole surface. The average density of population for the whole territory was of the order of eleven persons to the square kilometre, or, omitting the desert provinces, eighteen. The liwā with the greatest population was that of Baghdad with 800,000 people; next came Diwaniya, Muntafiq, and 'Amara. The greatest density was of 49 persons to the square

[1] The projects considered as 'main roads', with their bridges, were estimated to cost: Baṣra–'Amara–Kut–Baghdad, ID 2,800,000: Baghdad–Kirkuk–Arbil, 2,500,000: Baghdad–Sharqat, 3,450,00. Elsewhere, ID 4,450,000 was allotted for 'mountain roads', 6,176,000 for miscellaneous bridges, 1,550,000 for a Ḥilla–Najf road, 1,300,000 for Ḥilla–Diwaniya–Shamiya, and 5,250,000 for numerous other routes.

[2] For distribution of the population by administrative units, see Appendix B.

About four-fifths of the country consists of unproductive or slightly productive desert, steppe, marsh and hill masses. The productive core is divided broadly into two regions within which cultivation is practised regularly. The northern region is fed by rainfall supplemented by perennial streams rising in the mountains and, to a limited extent, by lift from the rivers. The southern region largely depends upon irrigation, supplied by canals drawn from the river system, following winter rainfall. The former may be appropriately called the Rainfall Zone, and the latter the Irrigation Zone. Actually the southward extension of the northern rainfall varies annually, while the date gardens of the Basra Liwa constitute a distinct (and of course economically a very important) study. But this does not affect the correctness of the broad picture presented.

Reference to Table I will show that the region of cultivated and cultivable land within the Rainfall Zone covers about 41,000 square

TABLE I. APPROXIMATE CLASSIFICATION OF LAND SURFACE, 1930

Expressed in square kilometres

Liwa	Total area all land	Hill mass	Cultivated Region				Additional potentially cultivable territory	Total cultivated and cultivable region	Territory containing tapu holdings	Size of holdings in miskaras*			
			Rainfall Zone		Irrigation Zone								
			†3% hill mass	Plains	Canal fed territory†	Machine fed territory†				1-100	101 to 500	501 to 1,000	Over 1,001
Mosul	43,800	9,350	190	14,580	—	—	270	15,040	7,870	—	—	—	—
Arbil	16,600	7,620	150	7,010	—	—	—	7,160	2,420	7,418	728	300	—
Sulimani	9,500	6,400	130	2,420	—	—	—	2,550	2,280	—	—	—	—
Kirkuk	20,800	—	—	12,020	—	—	3,240	15,260	6,280	—	—	—	—
Diyala	16,200	—	—	710	2,760	90	260	3,820	3,410	4,092	—	546	—
Baghdad	22,100	—	—	—	1,710	2,270	890	4,870	1,500	162	220	120	360
Dulaim	124,500	—	—	—	920	630	20	1,570	920	2,344	109	121	3
Karbala	21,200	—	—	—	660	—	20	680	620	—	—	—	—
Hilla	8,100	—	—	—	4,570	330	1,630	6,530	2,380	452	364	98	82
Kut	16,400	—	—	—	4,680	3,860	2,170	10,710	2,580	—	—	—	—
Diwaniya	63,000	—	—	—	3,770	2,180	5,520	11,470	2,270	6,378	—	155	69
Muntafiq	38,700	—	—	—	4,440	270	370	5,080	6,260	—	—	—	—
Amara	19,700	—	—	—	5,670	1,010	—	6,680	110	—	10	5	50
Basra	10,900	—	—	—	610‡	60	110	780	1,190	—	—	—	—
Totals	453,500	23,370	470	36,740	29,790	10,700	14,500	92,500	40,090	—	—	—	—

*Where information was available. Such information must not be presumed to be exhaustive. A miskara = 2,500 sq. metres or thereabouts.

†Territories so classified are at present very incompletely irrigated. ‡Tidally watered date gardens.

kilometres, and that within the Irrigation Zone about 51,000 square kilometres. These figures represent 9 per cent. and 11 per cent. of the total land surface of the country respectively. The cultivation is preponderantly of an extensive character. Only a fraction of these zones, possibly from a fifth to a tenth, appears to be actually cultivated in any given year. So that land is available for a very great development of agriculture, when other factors are favourable.

The information given in the table regarding the size of holdings is derived from fiscal returns. Although the classification of these holdings by area cannot be expected to be accurate, the figures possibly give some indication of the frequency of larger and smaller holdings in the districts actually concerned. The latter must not be taken to coincide with the cultivated areas of the liwas themselves.

3. Agricultural Population

3. In any general study of the land tenure of a country it is desirable to know the numbers and distribution of the agricultural population. Thus it would greatly assist in planning development in el 'Iraq if trust-

312 seriously, many a decisively, injurious effect on the success of pump development as a whole. These difficulties all call for careful study and for steady and carefully considered ameliorative measures. They are, however, for the most part outside of the scope of this report. But underlying and aggravating all other difficulties there is a widely prevailing uncertainty of rights to hold and to exploit the land affected. This has in many cases poisoned the relations between the two classes mainly interested in the majority of these enterprises and reduced to a minimum the prospects of their successful co-operation. And it has nearly always left the rights and the obligations of those concerned injuriously indefinite towards both the Government and to those associated with them. Consequently the bulk of these pump-fed areas have never received the single-minded and unified agricultural management that was, and is, an essential condition of success. It is possible, perhaps likely, that the other adverse conditions recited would in any case have prevented the general and widespread success anticipated. But a number of instances have been given me of pump ventures that have proved profitable in spite of these handicaps, because unified management was, for one reason or another, possible and realised.

427 Be this as it may, it is indisputable that the prospects of general success would have been increased if in all cases the rights to the land affected had been authoritatively settled and the requisite unification 311 of agricultural control had been secured, before capital and energy had been so lavishly expended on these ventures. It was most unfortunate that this remarkable agricultural development should have coincided with the singularly unstable economic period that has followed the war. But it can also be recognised now, in the light of experience, that the rush to develop these riverain tracts was carried out without sufficient preparation and foresight, and at a rate and to an extent which made too drastic demands upon the adaptability and the numbers of the primitive agricultural population upon whose efforts success ultimately depended.

311 The riverain tracts, which are primarily affected, are among the
312 most valuable agricultural areas in the country, because (*a*) of their contiguity to the main waterways and roadways, (*b*) of the natural fertility of the alluvium deposited along the river ridges which contain them, and (*c*) of their relatively high levels, which facilitate drainage and minimise the dangers of high floods. But owing to the last quality any regular cultivation of these tracts necessitates the installation of some artificial means of lifting the water from the adjacent waterway on to the land.

312 Prior to the recent pump development such artificial means of water lifting were virtually confined to the local water wheel (kerid) or to other simple devices, operated by animal or man power. Where kerid cultivation exists to-day it seems not infrequently to be more efficient than pump cultivation, since the more laboriously acquired water tends to be more carefully used and the land to be more carefully tilled to receive it. So it may be accepted that where cultivation by kerid or other simple lifting devices existed previously, such cultivation was usually good of its kind.

311 It therefore appears that until recent years cultivation in these valuable tracts was restricted to certain fringes watered by the simple types of lift mentioned, supplemented by rain in good years, and by flood water, through flood channels, when and where conditions permitted. And since land was comparatively plentiful and cultivators [414] comparatively scarce, the parcels of land actually cultivated varied incessantly to meet soil impoverishment, flood devastations, river

2: Dowson G-5 (1929-30) 1932 MHI Iraq MHI

changes, canal silting, tribal movements, Central Government action, or other circumstances. 311

7. With relatively little exception the riverain tracts affected are miri land. It has been noted how the cultivation previously shifted therein in response to changing circumstances. The prescriptive claims to pasture were naturally even more variable and indeterminate. It is consequently not surprising that as the pump development movement extended, these riverain tracts were found so closely interpenetrated by prescriptive claims (lazma) of one sort or another, that few areas suitable for pump development were unaffected. These claims constituted a serious obstacle to the general development of the riverain tracts by pump installations. For at first the claimants as a whole had neither the desire, nor the enterprise, nor the ability to raise the capital needed to undertake this development themselves. 311 423 427 312

In discussing these prescriptive claims earlier their primarily tribal origin was mentioned: and it appears that the prescriptive rights recognised by the provincial authorities in pump agreements are preponderantly of such origin and character. These pump agreements may be made in the name of a sheikh or sirkal, but he stands as the tribal or sub-tribal, representative. No doubt when the sheikh or sirkal is a forcible person, he may engulf in his own person the rights of his tribal associates. Alternatively when the sheikh or sirkal is a man of straw, unable to lead his section or keep it together, he may be displaced, and even lose his strictly tribal share in the common holding. In a number of cases, after the movement started and its potentialities had become more apparent, a sheikh or other leading member of a tribal section which claimed prescriptive rights over a promising area, himself erected a pump and cultivated the area with the labour of the other members of the section. Under these circumstances the difficulties of divided interests and divided control, so frequently attending these pump ventures, may not arise. And so far as my information goes it is pump ventures inaugurated and worked by a capable tribal leader under these conditions that promise to be the most successful. 427 312 622

But enterprising townsmen and others with tribal affiliations, who wished to participate in the movement usually had to search for a suitable stretch of miri land and enter into an agreement with some group of claimants to prescriptive rights over it. No very definite procedure was required. The process may be loosely generalised somewhat as follows. An enterprising individual, having some miri land of uncertain limits and subject to uncertain prescriptive claims in mind, decided to buy a pump and engine, the capacity of which usually depended as much on his financial resources as the situation and extent of the land to be watered. He applied to the Governor of the Province for permission to erect the installation. This always necessitated a permit from the Irrigation Department (under the Irrigation and Embankments Law), and when the land was miri (as it usually was) the approval of the State Domains Department and the issue of a lease by them. 427 312 311

The Irrigation Department checked the suitability of the installation to the extent of land, according to the information given; and if they had the means tried to locate the land and check the area on a map. Otherwise the figures had to be accepted as notified. And even when the capacity of the installation and the area of the land (as quoted) were discrepant, it was often found that the pump had already been bought. The Department also tried to ensure that the site of the pumping plant was wisely chosen in regard to flood and low stage river conditions, as well as the distribution of the water for cultivation.

The State Domains Department acted through the provincial authorities, who necessarily had no better information as to the situation

and extent of the land affected than could be furnished to, or provided by, the Irrigation Department.

But probably the two most unsatisfactory features of the proceedings were (i) the failure to settle the rights of prescriptive claimants definitely before allowing agreements to be made with them as *de facto* landholders, and (ii) the loose and unsatisfactory agreements, commonly entered into, between these claimants and the pump owners.

It is apparent now that it would have saved time, money and a great deal of trouble in the long run to have investigated and settled all prescriptive claims at the outset. It was reasonable and equitable that prescriptive claims based on effective exploitation of the soil should be recognised. But such recognition should have been coupled with an equally definite limitation of the claimants' rights to these specifically recognised areas. It was clearly unreasonable and contrary to the public interest that, in addition to such properly recognisable rights, a vague mass of indefinite and shifting claims should be allowed to persist and to interfere with the economic development of these tracts as a whole. It was desirable when the opportunity occurred to define alike the rights of prescriptive holders and the balance of unincumbered miri land free for exploitation by other parties under lease or grant from the State. And since the object of pump development was a much greater extension of cultivation it was evident that the necessarily restricted limits of previously existing cultivation would tend to be obliterated thereby. Consequently, if prescriptive claims were to be recognised on the only clear and equitable basis possible—that of effective exploitation of the land—it was important to investigate and record the existing limits of such exploitation before these limits were effaced.

If this had been more evident at the time, such claimants could no doubt have been justly accorded considerably smaller areas than are now claimed, while the Government would have secured a balance of free miri land irrigable by pump which might have been leased directly to those desirous of erecting pumps. No doubt in these circumstances the areas available for lease to pump owners would often have been awkwardly interspersed with the recognised prescriptive holdings; but this was unavoidable unless such claims had been repudiated. And if both parties had known exactly where they were at the outset, agreements between them could have been entered into on a much more satisfactory basis than was as a rule actually possible.

As it is the peculiar difficulties that have arisen in the tenure of these riverain holdings have been primarily occasioned by the uncertainty of the respective rights of pump owner and prescriptive holder, when these are different parties. When they are united in one person, or in a tribal or other group that displays effective cohesion, current difficulties for the most part resolve into those commonly attaching to the holding of miri land elsewhere. It is true that certain obligations are due to the situation of these holdings in proximity to the main waterways (e.g. the maintenance of flood protection) but these can be separately considered and were neither new nor unexpected.

So the problem of the riverain holdings in which pump development has taken place may be regarded essentially as a particular case of the general problem of the tenure of miri land. But this merely makes at least a provisional solution of this larger question the more imperative. And any such solution, when applied to the pump areas, must also provide for the definition and reconciliation of the respective rights of pump owners and prescriptive holders, when separate parties in a joint undertaking.

2: Dowson G-5 (1929-30) 1932 MH1 Iraq MH1
Egypt MR1

any solid economic advance in el 'Iraq. The third is the introduction and maintenance of a simple, secure and equitable land tenure, which term should be understood to include an even and readily met revenue demand. This report is only directly concerned with the last need: but in studying it, its inter-relation to the other two must be continuously kept in mind. No development of the country's agricultural resources can expect to be successful which does not take all these three needs into consideration together.

8. Comparison with Egypt

8. During the progress of my inquiry comparisons were frequently instituted with Egypt, a country with many parallels to el 'Iraq both in its history and its natural conditions. Owing to the courtesy of the Egyptian Government I am able to compare in Table X the respective positions on certain salient points of el 'Iraq in 1929 and of Egypt in successive decades from 1882 onwards. It will be noted that during the last fifty years Egypt has more than doubled her population, added 50 per cent. to her cropped area, quadrupled her trade, and her budget, built up a substantial budgetary reserve, and largely absorbed her original external debt.

TABLE X. COMPARATIVE FIGURES, EL 'IRAQ AND EGYPT

		EL 'IRAQ	EGYPT					
		1929	1882	1890	1900	1910	1920	1929
Population in millions		2·8	6·8	8·2	10·1	11·8	13·2	14·4
Gross cultivable area, sq. km.		90,000	32,000					
Area cropped yearly, sq. km.		10,000	24,000*	27,000*	30,000*	32,000*	34,000*	36,000*
Imports	£ millions	980	1,100	1,100	1,900	3,200	14,000	7,200
Exports		560	1,800	1,700	2,400	4,000	11,800	7,400
Re-exports		510†	14	40	80	60	350	190
Land Revenue		168	680‡	700‡	600‡	700‡	700‡	720‡
Customs Revenue		274	80	190	330	480	1,370	1,620
Total Budgetary Revenue		570	1,300	1,630	1,630	2,260	4,700	3,790
Total Budgetary Expenditure		560	1,230	1,560	1,500	2,340	4,000	3,690
Budgetary Reserve Fund				200	1,150	790	2,370	3,540
Debt§			10,900	13,100	13,000	13,100	12,900	12,400

*From ½ to ¼ cropped twice. Net area cultivated in 1929 was 23,000 sq. km.
†Goods in transit, not included in imports.
‡Yield maintained constant on re-assessment following revenue settlement. Fluctuations due to remissions to unwatered land followed by extensions of irrigation.
§Mostly held in Egypt now.

Egypt is more favourably situated geographically than el 'Iraq; while Mahommed Ali Pasha did much to initiate early in the last century the reform of her land tenure which has proceeded since. And it will be seen that even fifty years ago Egypt was considerably more populous and wealthier than el 'Iraq is to-day. But el 'Iraq is by no means devoid of advantages also. She has Egypt's established success before her. Her cultivable area is larger and more diverse, so that she is in a better position to develop a varied export trade. She is free of unproductive debt and can devote all funds not absorbed by current needs, to productive purposes. And her petroliferous deposits provide her with special financial aid at the most useful moment. So that a comparable advance to that made by Egypt may be hoped for, if a comparable effort can be made.

The unavoidably lengthy duration of a general settlement of rights to land in el 'Iraq has been emphasised several times in this report: although no precise estimate of the period required is practicable in the

3: Clark S-5 (1950) 1951 MH1 Iraq MH1

smaller urban and semi-urban communities, the country is essentially rural and dependent upon agriculture. There are, it is estimated, some 35,000 square miles of cultivable land, only twenty per cent of which is cropped in any one year. The country is watered by the two rivers, the Tigris and Euphrates, and is amenable to great irrigational projects. Some large-scale and subsidiary irrigation schemes have been developed and others are under way. Until capital is available, however, to bring much more water to much more land, large areas of potentially arable and pasture land will continue in a state of unexploited fertility.

With the exception of a minority who dwell in the towns and smaller urban communities, the population is sparse and much of it mobile. Out of a total population of some 5,000,000 roughly twenty-two per cent live in urban areas, forty per cent in settled rural communities, thirty per cent in semi-settled rural areas, and eight per cent are nomadic.

The educational and other social problems and needs of the country can only be appreciated if it is realized that Iraq is predominantly rural in character and modes of life and, minor industries and developing oil projects apart, is dependent upon agriculture for its existence. There is a certain amount of industrial activity connected with drink, tobacco, soap, vegetable oils, foot-wear, bricks and a few cotton ginneries, but, generally speaking, the industrial capacity remains undeveloped. Oil output, however, is rapidly increasing, and the royalties from this industry have already made a valuable contribution to badly needed capital works.

Racially, the inhabitants may be roughly divided into seventy-seven per cent Arabs, seventeen per cent Kurds, three per cent Jews, the remainder being Turcomans, Yazidis and Assyrians. The number of Jews has, however, decreased by recent emigration into Palestine. The inhabitants may be further divided into distinctive religious groups, ninety-three per cent being Muslims, three per cent Jews, slightly less than three per cent Christians, the remainder being of miscellaneous faiths. Despite these marked religious differences, a feature of the public educational system of Iraq is its great religious toleration.

Generally speaking, although the inhabitants are distributed into distinctive racial and religious groups, they seem to share some important characteristics which, to the educator, are hopeful and significant. A visitor to the country cannot but be impressed with the great natural courtesy, friendliness and open-hearted hospitality invariably shown by people of all ranks and groups. In addition to these socially valuable characteristics, many of the people exhibit a quickness of response which, in those who have passed

3: Clark S-5 (1950) 1951 MH1 Iraq MH1

651 Government officials whose incomes are known and to a minority of the merchants, should be extended to other forms of income, and that provision should also be made for an inheritance tax. There can be no doubt that, if income tax were extended to other forms of income, a wealthy section of the community who at present derive large incomes from land ownership and other sources would contribute much more than they do at present to the national revenue. Another suggestion put forward is that customs and excise duties should be adjusted to *ad valorem* rates to bring them more into accord with post-war prices. They also recommend that the consumption or sales tax, which is at present a fixed rate of 12.5 per cent on produce sold, should be replaced by a form of sliding scale tax related both to land values and to the use made of land. In advocating this important change the reformers maintain that this would produce more revenue, would prevent existing evasions and would also serve as an incentive to increased agricultural production.

It is not within the competence of the writer to comment on the validity or practicability of revenue reforms of this kind. It is clear, however, that there is a fertile field for intelligent enquiry into methods for producing that additional budget revenue without which educational and other advance will be slower than is desirable.

311 *The Problem of Land Tenure.* While it is possible that measures such as those indicated would produce valuable additions to the national revenue, the fact remains that the main source of Iraq's future wealth must be the proper exploitation of the land. Upon this depends that higher standard of life for the bulk of the population, and the concomitant increase of wealth for both private and public use, without which the country will never be able to enjoy that abundant life which the rich natural agricultural resources of Iraq make possible. Unfortunately the country's enormous agricultural potential is greatly hindered by the system of land tenure.

423 The land tenure system of Iraq is far too complicated a subject fully to be examined in this study, but the following extract from Sir Ernest Dowson's classic report on this problem gives some idea of its effects and ramifications:

> The injurious effect of the existing welter of uncertainty and dispute upon both the agricultural prosperity of the country and public order can hardly be exaggerated. Every one directly or indirectly concerned with agriculture in Iraq must know many individual cases in which the development and use of the land has been gravely obstructed by the widespread insecurity

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I. Introduction

311 Iraq possesses impressive potentialities for economic development. With a total population of about 5,000,000 and an area of 168,400 square miles, Iraq is sparsely populated in relation to its resources. Although all but a relatively narrow belt in the north and northeast has insufficient rainfall to sustain agriculture, the country's twin river systems—the Tigris and Euphrates—can provide large amounts of water for irrigation. Much of its soil is inherently fertile and with ample water, manpower and implements, the area under cultivation might be almost tripled. In oil, Iraq possesses not only a source of foreign exchange but also a cheap source of power and raw materials essential to the development of industry, agriculture and transportation; and it may have other mineral resources susceptible of commercial exploitation. There is little doubt that the country can ultimately maintain a much larger population on a considerably higher standard of living.

511 As yet, however, this economic potential is in sharp contrast to the poverty prevailing in Iraq. The standard of living of the people is extremely low. Income per capita is probably at most ID 30.[1] Almost 90 percent of the population are illiterate and many are subject to debilitating diseases such as malaria, hookworm and bilharzia. Housing and sanitation are for the most part primitive. The fundamental reasons for these conditions are low output and low productivity. Most of the manpower on the land is underemployed for a large part of the year, and considerable unemployment exists in the major cities. Vast tracts of land await reclamation and irrigation before they can be used. Much of the available water is wasted owing to lack of storage and regulation of flow. In the spring disastrous floods often inundate large areas; and in the fall water is acutely short. Agricultural output is hampered not only by the inadequate and irregular supply of water, but also by the progressive salination of the soil in the irrigated areas. Agricultural techniques are primitive, the number and quality of draft animals are inadequate and there is insufficient equipment. Industry is little developed. Although perhaps as many

[1] One Iraqi dinar equals £1 or $2.80.

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on the land. There is apt to be increasing pressure on the landowner to take such steps as a result of the growing opportunities for alternative employment created by a large increase in public expenditures on development, the expansion of industry and the opening of state lands to settlement. In fact, unless the sharecropper's status is improved, there is a great danger that there will be a continued flight of labor from the land, impairing the country's agricultural production.

The government itself has made only a modest contribution to the advancement of agriculture. The Directorate-General of Agriculture is only a subordinate department in the Ministry of Economics and has been severely handicapped by lack of funds and a shortage of competent agricultural officers. While it has had some success in combatting pests and diseases and in the extension of such crops as cotton and citrus fruit, too little attention has been devoted to practical research, and almost no field work has been carried out to assist cultivators in improving their crops and methods of cultivation. The expenditures of the Agriculture and Veterinary Departments were actually cut from ID 1,160,000 in 1948-49 to ID 540,000 in 1950-51 and, at the latter figure, represented only 1.8 percent of the total budget outlay. Expenditures on both agriculture and irrigation 1950-51 amounted to only 6.7 percent of the total.

Plans for the future now envisage large water storage and irrigation projects to provide more water for land already in use and to increase the area under cultivation and provide for the settlement of new land. These plans are in general quite sound. They will be largely ineffective, however, unless at the same time more stress is placed on arresting the deterioration of land already in use by extensive drainage schemes and on raising the productivity of agriculture by other means. The establishment of an efficient extension service and the provision of incentives to improve methods of cultivation are particularly important in this connection.

Expansion of Area under Cultivation: Irrigation

Extension of the area of land under cultivation is vitally important not only to an increase in production, but, above all, as

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311 a means of establishing a class of independent peasant landowners capable of earning a decent livelihood. Official estimates indicate that the amount of "cultivable" land is almost three times that under cultivation. The criteria used in determining the cultivability of land have, however, probably varied widely. Thus part of the cultivable land in the so-called rain-fed zone in the north may well be in areas sub-marginal from the standpoint of rainfall. As soon as possible the government should classify the cultivable land which is not presently cultivated by types of soil and determine what measures are required in each instance to put the land under cultivation, e.g. whether the land must be reclaimed by drainage and whether, if the land needs to be irrigated, the irrigation should be by pump or by flow.

Most of the area which can be put under cultivation will require water, yet, under current conditions, the supply of water does not even permit the effective irrigation of the area already in use. Projects for the storage of the excess water which pours down the Tigris and Euphrates rivers during the spring flood season and
653 312 frequently unloosens destructive floods are clearly essential. The government has already initiated work on the Habbaniya Lake storage scheme for the Euphrates River and has let a contract for the first stage of the Wadi Tharthar flood control project on the Tigris River. The program of the Development Board also makes provision for storage dams on two tributaries of the Tigris, the Lesser Zab and the Diyala River. While the Derbend-i-Khan dam on the Diyala River will provide primarily for the more effective irrigation of land already under cultivation, completion of the Dokan dam on the Lesser Zab and of the Habbaniya Lake project should provide enough water to extend the cultivable area under irrigation from about 11 million donums at present to approximately 15 million.

The Mission fully endorses these projects (see map), with the proviso that borings prove the soundness of the Dokan dam site. At the same time it recommends that they be complemented by the construction at an early date of the Bekhme dam on the Greater Zab River for which no provision has yet been made. This dam would compensate for the diversion of the Lesser Zab water from the Tigris by the Dokan dam. Without the Bekhme dam the

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more brought into use. The government should take steps to survey the possibilities for small projects and to provide assistance in carrying them out, thus giving aid and security to the farm population of the North which now feels that its needs have been neglected and overlooked.

In general, however, the North will have to remain dependent on rain-fall to sustain its agriculture. There are apparently still considerable rain-fed areas which can be settled and put to the plow. Particular care should be exercised, however, to insure that the areas are not sub-marginal from the standpoint of either rainfall or fertility and that settlers are really available in the North, which is generally more sparsely settled than the central and southern portions of Iraq. For example, the Mission believes that the prospect of scanty and uncertain rainfall will probably make it undesirable to proceed, except on a very restricted, experimental basis, with the settlement scheme near Balad Sinjar in Mosul province which has been projected by the Agriculture Department.

Settlement of New Land

In the past much of the vacant land available for an expansion of crop production which ostensibly belonged to the state has fallen into the hands of big landowners. The so-called Land Settlement Law of 1932, which inaugurated a cadastral survey for the purpose of settling the past confusion regarding land titles and systems of tenure, facilitated this process. It permitted the land settlement committees appointed to administer the law to grant titles (so-called *lazmah* grants) to people who could demonstrate that they had made productive use of land within the previous fifteen years. In practice, it has been possible to obtain title on the presentation of proof that a crop was produced on the land in one year, and the land settlement committees have occasionally accepted even more tenuous proof of cultivation. In this way many sheikhs and other influential persons have managed to obtain title to large tracts of land without any payment whatsoever. Since the cadastral survey is only about half completed, more land may be preempted in this way unless a limit is set on such acquisitions.

Land definitely adjudged to be state (*miri sirf*) property by the land settlement committees has, however, been set aside for

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new settlements the government will have a unique opportunity to remedy the shortcomings of the Dujaila project.

Improvement in Productivity

While expansion of land under cultivation, particularly through large irrigation schemes, is essential in the long run to provide for a growing population and to establish a socially desirable class of smallholders, it should not be undertaken without a simultaneous vigorous campaign to increase the productivity of agriculture and livestock. The temptation to neglect such an effort in favor of striking new irrigation schemes should be resisted. Among the measures upon which this campaign should concentrate are drainage, the provision of better tools, seeds and draft animals, the introduction of soil-building and forage crops, the use of fertilizers, the improvement of livestock, the planting of trees and the establishment of an effective extension or advisory service to farmers.

1. Drainage

The drainage of existing irrigated lands would make the most important single contribution to increasing the productivity of agriculture. Moreover, it will also have the most immediate effect since it can be carried out by the government while the success of virtually all other measures to raise productivity depends on the necessarily slow process of persuading farmers to abandon age-old methods of cultivation.

The Haigh Irrigation Commission, which made an extensive study of irrigation and flood control for the government, estimated a few years ago that about 60 percent of the land irrigated by flow had been seriously affected by salt. The Mission's own inquiries and observations indicate that as much as 20 to 30 percent of cultivated land has been abandoned over the last few decades because of salt accumulation, while on a large part of the remaining land yields have declined by 20 to 50 percent and even more. In a number of new irrigation projects such as Hawija and Dujaila salting forced abandonment of part of the land within two years after the schemes were initiated. Drainage, almost totally neglected in the past, should therefore be prosecuted with utmost vigor in the future.

The main drainage canals for the whole irrigation zone have been projected, but it is now necessary to proceed with detailed

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ANNEX A

BASIC FACTORS AND CONDITIONS

I. The Regions

131 Iraq, a country with a population of approximately 5,000,000 and an area of 168,040 square miles, forms roughly a triangular area with the base running southwest to northeast and the apex 133 terminating at the Persian Gulf. It is dominated by two great river systems—the Tigris and the Euphrates. The Euphrates rises in the mountains of Turkey, flows across the Northern Syrian plateau and then meanders through Iraq, receiving little additional water from tributaries. The Tigris also rises in Turkey, but further to the east and north. It enters Iraq in Mosul province and receives important accessions from the Greater and Lesser Zab Rivers which are fed from the snows and the rains of the mountains along the Turkish and Iranian borders and, to a lesser degree, from the Diyala River. Downstream from Ramadi on the Euphrates and Baghdad on the Tigris the two rivers form a single low-lying alluvial valley built up as a delta into the Persian Gulf. As they flow south, the rivers are virtually lost in the marshes and lakes of southern Iraq, their remaining waters uniting at Qurna to flow as the Shatt al Arab into the Persian Gulf.

311 Only a relatively narrow belt, lying north-northeast of a line roughly running south of Mosul and Kirkuk to Khanaqin near the Iranian border, has sufficient rainfall to permit the cultivation of winter crops without irrigation. In the rest of the country, agriculture depends upon the water of the two rivers for irrigation, whether by pump, by flow or by natural inundation. With the exception of the large and remote southern and northern deserts and the greater part of the rolling uplands between the Tigris and the Euphrates known as the northern Jezireh, most of this region can be cultivated once water is made available. With storage and regulation of the river waters, a great extension of the area under cultivation is possible. Without regulation, on the other hand, the

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311 waters of the twin rivers are largely wasted and periodically unloosen disastrous floods upon Baghdad and the alluvial plain to the south.

The Rain-fed Zone

241 438 In the upland plains of the rain-fed zone stretching from Northern Mosul to Suleimaniya, wheat and barley are the principal crops. Rainfall is generally inadequate for summer crops, although water from streams and springs permit cultivation of rice and cotton. In part of this area, especially Northern Mosul, there has been a rapid extension of cultivation with the help of modern agricultural machinery.

233 438 241 To the north and northeast lie the mountain massifs of Iraq. Here the raising of cattle, sheep and goats by Kurdish nomads is one of the principal occupations. The mountains are largely barren of trees but offer natural pasture for animals. In the valleys and on hillsides grain, tobacco, timber and fruit are grown. Tobacco, although small in area, is an important cash crop.

438 433 [315] Except for some handicrafts, there is little native industry in this region. Mosul, the second largest city in Iraq, is principally a commercial center and an outlet for exports to Syria and Lebanon. Kirkuk, however, is the center of most of Iraq's petroleum production and one of the largest and richest oil fields in the world. Oil fields of subsidiary importance also exist at Ain Zaleh in Mosul province and near Khanaqin in Diyala province. The mountains of the North may ultimately yield other minerals such as copper, chrome and iron.

The Irrigation Zone

133 311 South of the rain-fed zone the river valleys may be divided into three major regions: the upper river valleys; the lower river valley down to Amara and Nasiriya; and the triangular area from Nasiriya and Amara to the mouth of the Shatt al Arab.

The first of these regions includes most of the northern Jezireh and the area north of Baghdad and east of the Tigris. The latter area still awaits irrigation for the most part, and the Jezireh is hardly susceptible to irrigation because of the elevation and configuration of the land. The Jezireh is an upland plateau

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relieved by low ranges and depressed areas of which the major one is the Wadi Tharthar. It is sparsely inhabited by pastoral nomads although in the North some settled farming, made speculative by irregular rainfall, is carried on.

The second region, extending downstream from Ramadi on the Euphrates and Baghdad on the Tigris and including the Diyala River Valley, is the area where most irrigation projects have been carried out in the past. Pump irrigation predominates on the banks of the three rivers where the land is high and water is easily accessible. For the more remote areas flow irrigation is provided by canals dependent on the Hindiya barrage on the Euphrates, the Kut barrage on the Tigris and the Diyala weir on the Diyala River. Here flow irrigation between the two main rivers is facilitated by the fact that in the Baghdad region the Euphrates is higher than the Tigris, while below Baghdad the Tigris is above the Euphrates. In this region barley is the principal winter crop, followed by wheat. Summer crops are limited by lack of water, but among them cotton has become in recent years by far the most prominent, leaving sorghum, sesame, green gram, corn and millet far behind. Fruit culture is important. Dates are widely grown, both for domestic consumption and for export; and the Diyala Valley in particular produces excellent citrus fruit. Rice is an important crop between Nejf and Diwaniya on the Euphrates and around Rumaitha farther down the river. The country's major concentration of population lies in the region comprising the district about Baghdad and the provinces of Hilla, Kerbela and parts of Kut and Diwaniya. It includes the capital, Baghdad, a city with a population of 550,000 and the leading commercial and industrial center of the country.

The third region—the Basra, Nasiriya, Amara triangle—is generally one vast marsh during the spring floods. Here the rural dwellings are of reeds and brushwood, in contrast to the rest of the country where mud huts and, in the mountains of the North, stone houses predominate. Rice grown in the naturally inundated marshland is the staple food, varied by fish; and the water buffalo is the prevailing type of livestock. Here also is the world's largest date palm belt stretching along both sides of the Shatt al Arab and contributing one of Iraq's principal exports. Basra, Iraq's only port, is the largest city of this region and handles most of the country's foreign trade.

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438 country's foreign trade. Near it is the country's second largest oil field.

133 To the south and southwest of the irrigation zone lie the vast
● 311 arid tracts known as the southern and northern deserts which
233 comprise about 40 percent of the land area of Iraq. These are sparsely inhabited by roaming nomads who raise camels, goats and sheep and annually take their flocks into the river valleys in search of summer pasture.

II. The People

161 The first official census of the settled population in Iraq was taken in 1947 and preliminary statistics on the male and female population of each province have already been published.[1] The preliminary estimate of the enumerated population was approximately 4.6 million. This figure has been brought up to 4.8 million in the published statistics by adding a rough estimate of 200,000 for the nomads in Mosul province and in the provinces along the Euphrates. Like all other countries at a similar stage of development, Iraq has a very young population, about half being under the age of 20. Although no reliable vital statistics are available, all indications point on the one hand to a very high rate of mortality among infants and young children, and on the other, to a correspondingly high birth rate. Even under the present poor health conditions the population seems to have been increasing at a rate conjectured to be in the region of one to one and a half percent per annum. Whatever the present rate, however, it is clear that, if full advantage is taken of the ample opportunity to improve health

[1] Considering the attendant difficulties, this census may be judged a success. The information about the people of Iraq which it has already yielded and, more especially, which it can yield when tabulation is completed, is without doubt far more reliable than any estimates previously made. However, as with most first attempts at census-taking, the results have to be interpreted with great caution. Besides the figures already published, the Mission had access to certain unpublished data on four provinces—Baghdad, Mosul, Kirkuk and Basra. Much of the description of the population which follows is based on this data, but it must be noted that, although allowance was made for the fact that these four provinces are a most imperfect cross-section of the country, this fact is an additional limitation to the validity of any but the broadest conclusions.

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IV. Natural Resources

Land and Water

312 Aside from oil, water and land may be said to be the principal natural resources of Iraq. Of the two, water is the more critical factor in the country's development. Underground water is generally plentiful, but in parts of the North it is frequently found only at considerable depth and in the central and southern portions, where the water table is high, it tends to be brackish and unfit for consumption. In the two major rivers, however, Iraq possesses a source of abundant water of a quality excellent for irrigation and, with purification, for human consumption. Here the chief problem lies in the marked variation of the flow of the rivers. On the Euphrates the mean monthly discharge of water varies from a low of 293 cubic meters per second in September to a high of 2,235 in May. On the Tigris the variation is even more marked, ranging from a low of 359 in October to a maximum of 2,951 in April. Thus periods of floods alternate with periods of acute scarcity. In the absence of storage facilities and a regulated flow, the limit on the cultivation of crops is set by the current low point in the water supply in the critical growing period for both winter and [134] summer crops. The water problem is further complicated by the fact that continuous use of water for irrigation, coupled with the effect of evaporation in a dry, hot climate, has saturated the subsoil waters with salt and raised the water table, thus precipitating salt which, in the absence of drainage, quickly makes the land infertile. More effective use of the water supply is thus the central problem of Iraq.

● 311 In relation both to the population and the land actually under cultivation, the amount of cultivable land available in the country is very large. Accurate statistics on the total cultivable area are lacking, but the following estimates based largely on data supplied by the Department of Agriculture give some conception of the magnitude:

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TABLE 2

CULTIVABLE LAND, CROPPED LAND AND LAND IN AGRICULTURE USE
(in millions of donums)

CULTIVABLE AREA	48.1
Irrigation zone	32.1
Rain-fed zone	16.0
AREA ACTUALLY IN CROPS	11.1
By area	
Irrigation zone	7.6
Rain-fed zone	3.5
By type of crop	
Winter	8.4
Summer	1.9
Orchards	0.8
AREA UNDER CULTIVATION	17.5

These figures would indicate that the area under cultivation, taking into account the assumption that almost half of the area devoted to winter crops is normally left fallow, is only about 36 percent of the total cultivable area. In the rain-fed zone the area under cultivation could theoretically be more than doubled; and in the irrigation zone it could be almost tripled. Unquestionably these figures give a somewhat exaggerated impression for it is likely that the criteria employed in classifying land as cultivable have been rather liberal, but there is little doubt that the area under cultivation can be greatly extended. What would be required in detail to put this additional cultivable land in actual use is not known, but, in the irrigation zone, water and drainage are undoubtedly the prime prerequisites while, in the rain-fed zone, more manpower and machinery may be the principal requirements.

Forms of Land Tenure

Land is held under a complicated system of tenure which has given rise to much confusion and conflict. In accordance with traditional legal concepts the state has retained the ultimate legal title to nearly all the available land. Absolute private ownership, known as *mamloukah* or *mulk*, is confined to urban property and orchards. Rights to the permanent usufructuary possession of a large proportion of state or *miri* land have been acquired by private

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V. Production

A considerable part of Iraq's potentially large resources are as yet unutilized or ineffectively utilized. Most of the manpower on the land is underemployed for a large part of the year, and considerable unemployment exists in the major cities. Vast tracts of land await reclamation and irrigation before they can be used. Much of the available water is wasted owing to lack of storage and regulation of flow. Oil reserves have as yet been tapped only in relatively modest quantities. The output of the country is therefore still very low and the standard of living correspondingly depressed.

Agriculture and Livestock

Estimates of the area and output of the principal crops are given in the table below. Although the statistics are not very reliable, they give some indication of the relative importance of the various crops. Barley and wheat are clearly the dominant crops. Barley is one of the leading exports, and cereals altogether accounted for 43 percent by value of the country's exports other than oil in the period 1948-50. Rice is another important cereal. Cotton is now vying with rice as the leading summer crop. Stimulated by high prices and government encouragement, the area planted to cotton has risen rapidly in recent years. In 1951, probably about 580,000 donums were put in cotton—almost five times the amount in the preceding year. Other summer crops are comparatively insignificant. Some sesame is grown for oil, and some corn, millet and grain sorghum. Tobacco assumes importance only in the mountainous area of the North. Virtually no crops are grown for animal fodder, and the production of hay is unknown. The area devoted to soil-building crops such as legumes is rather small.

Next to cereals, dates are the most important crop. There are about 20.2 million date trees, of which about 9.7 million are along the Shatt al Arab near Basra and the balance in the central valley districts of the Tigris and the Euphrates and the Diyala River Valley. Dates are a staple food over most of Iraq and date exports, particularly from the Basra area, contributed 31 percent by

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TABLE I-A

LAND CLASSIFIED ACCORDING TO TYPES OF TENURE BY CADASTRAL SURVEY UP TO FEBRUARY 8, 1951

CULTIVABLE LAND

(in donums)

Province	Total Area of Province	Area Classified						
		Mamlukah (Mulk)	Matrukah	Mawqufa (Waqf)	Miri Tapu	Miri Lazmah	Miri Sirf	Total
Baghdad	7,906,800	69,620	6,588	81,360	319,171	1,037,157	3,324,500	4,838,398
Kut	6,208,325	66	—	203	618,974	1,595,466	2,535,439	4,750,149
Kerbela	2,447,600	11	—	2,319	84,652	19,488	23,958	130,429
Basra	4,908,400	63,067	—	15,181	84,576	3,041	61,608	227,473
Amara	7,496,800	—	—	22	7,991	47,043	1,914,865	1,969,921
Diwaniya	5,981,600	28	92	—	187,791	840,588	307,405	1,335,905
Dulaim	18,428,400	6,669	—	13,840	123,181	432,201	3,579,990	4,155,882
Erbil	7,217,200	10	—	645	786,739	817,853	302,540	1,907,787
Suleimaniya	3,805,600	16	—	190	355,373	2,705	51,793	411,076
Mosul	20,129,200	56	913	170,914	2,979,610	1,099,525	7,775,652	12,026,669
Kirkuk	8,132,400	200	1,615	109,878	1,372,423	310,935	991,127	2,786,179
Hilla	2,100,000	3,489	37	27,976	573,148	758,091	262,092	1,624,834
Diyala	6,438,000	7,369	50	126,670	876,964	407,637	605,193	2,023,874
Muntafiq	5,832,400	—	—	—	—	—	—	—
Total	107,032,725	150,601	9,296	549,198	8,370,595	7,371,720	21,737,165	38,178,575

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TABLE I-B

Land Classified According to Types of Tenure by Cadastral Survey up to February 8, 1951

UNCULTIVABLE LAND

(in donums)

Province	Total Area of Province	Area Classified						
		Mamlukah (Mulk)	Matrukah	Mawqufa (Waqf)	Miri Tapu	Miri Lazmah	Miri Sirf	Total
Baghdad	7,906,800	14,951	108,756	9,010	41,592	71,131	349,126	594,567
Kut	6,208,325	20	54,148	192	127,504	152,311	1,124,000	1,458,176
Kerbela	2,447,600	96	3,872	160	26,391	1,637	868,073	900,229
Basra	4,908,400	4,447	21,372	441	6,613	113	748,587	781,575
Amara	7,496,800	258	9,271	57	202	7,595	836,648	854,032
Diwaniya	5,981,600	8	23,924	2	31,578	98,093	75,474	229,081
Dulaim	18,428,400	435	81,074	550	7,490	26,693	4,320,580	4,436,823
Erbil	7,217,200	517	202,888	813	9,326	5,970	162,132	381,646
Suleimaniya	3,805,600	15	117,982	2	1,250	—	12,873	132,113
Mosul	20,129,200	116	354,692	4,442	213,207	4,274	324,210	900,942
Kirkuk	8,132,400	135	621,893	2,503	42,381	632	160,035	827,570
Hilla	2,100,000	182	37,821	3,158	65,532	65,442	192,575	364,711
Diyala	6,438,000	1,186	49,218	15,206	125,927	51,408	164,050	406,996
Muntafiq	5,832,400	—	—	—	—	—	—	—
Total	107,032,725	22,366	1,686,912	36,538	698,897	485,291	9,338,365	12,268,459

TABLE I-C

Land Classified According to Types of Tenure by Cadastral Survey up to February 8, 1951

TOTAL, CULTIVABLE AND UNCULTIVABLE LAND

(in donums)

Province	Total Area of Province	Area Classified						
		Mamlukah (Mulk)	Matrukah	Mawqufa (Waqf)	Miri Tapu	Miri Lazmah	Miri Sirf	Grand Total
Baghdad	7,906,800	84,571	115,344	90,370	360,763	1,108,288	3,673,626	5,432,965
Kut	6,208,325	86	54,148	395	746,478	1,747,771	3,659,439	6,208,325
Kerbela	2,447,600	107	3,872	2,479	111,043	21,125	891,931	1,030,658
Basra	4,908,400	67,514	21,372	15,622	91,289	3,154	810,195	1,009,048
Amara	7,496,800	258	9,271	79	8,193	54,638	2,751,513	2,823,953
Diwaniya	5,981,600	36	24,016	2	219,369	938,681	382,879	1,564,986
Dulaim	18,428,400	7,104	81,074	14,390	130,671	458,894	7,900,570	8,592,705
Erbil	7,217,200	527	202,888	1,458	796,065	823,823	464,672	2,289,433
Suleimaniya	3,805,600	31	117,982	192	356,623	2,705	64,666	543,189
Mosul	20,129,200	172	355,605	175,356	3,192,817	1,103,799	8,099,862	12,927,611
Kirkuk	8,132,400	335	623,508	112,381	1,414,804	311,567	1,115,162	3,613,749
Hilla	2,100,000	3,671	37,858	31,134	638,680	823,532	454,667	1,989,545
Diyala	6,438,000	8,555	49,268	141,876	2,136,892	459,045	769,243	2,430,870
Muntafiq	5,832,400	—	—	—	—	—	—	—
Total	107,032,725	172,967	1,696,208	585,736	9,069,582	7,857,011	31,075,530	50,447,034

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TABLE 1

AREA WITHIN IRRIGATION SYSTEMS
(in 1000 masharas)

	Gross	Cultivated	Winter crop area irrigated	Mean discharge used for irrigation (in cumecs)
EUPHRATES				
Flow irrigation	3,109	2,666	1,160	161
Pump irrigation from canals	607	515	263	32
river	955	812	474	43
Total	4,671	3,993	1,897	236
TIGRIS*				
Flow irrigation	2,380	2,033	760	105
Pump irrigation from canals	1,060	901	400	49
river	3,020	2,567	1,280	115
Total	6,460	5,491	2,440	269
DIYALA				
Flow irrigation	1,350	1,148	572	74
Pump irrigation	215	183	92	8
Total	1,565	1,331	665	82
Grand Total	12,696	10,815	5,002	587

* Including tributaries other than the Diyala.

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In considering the areas which might be provided with new irrigation systems, the Mission has adopted certain standards and practices which have been generally accepted in the past. Among these are:

1. The amount of cultivated land (in winter crops) which can be irrigated effectively by a constant flow of one cumec measured at the intake of an irrigation system (i.e. the so-called irrigation duty) is 7,200 masharas or donums;
2. Half of the cultivable area within an irrigation system is left fallow during the winter crop season; and, since a given amount of water can generally irrigate an area in winter crops about four times as large as in summer crops, the area of an irrigation system is conceived in terms of the winter crop;

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3. The cultivable area within an irrigation system is about 85 percent of the gross area which includes the surface occupied by roads, villages, canals, etc.

The Mission does not regard the first two criteria as immutable. The indicated irrigation duty is certainly very low; and the Mission will make some suggestions regarding it in the subsequent discussion of problems of operation. The present fallow system practiced in agriculture should also not be regarded as sacrosanct. Through the use of fertilizers and the introduction of soil-building crops the proportion of fallow might well be considerably reduced. Since almost all of the land which will be newly irrigated will be opened to settlement by small-holders under prescribed conditions, the state will be in a good position to insist on better agricultural practices in such areas. With water stored in reservoirs, it will also be possible to regulate the distribution of water as between winter and summer crops. In the past the amount of water which has flown down the rivers at critical parts of the growing seasons has set an automatic limit on the area both in winter and summer crops. In the future, however, this flow will be subject to control through the release of stored water. The Mission therefore suggests that the government make a special study to determine what combination of winter and summer crops using a given quantity of water would yield the highest output for the manpower employed on the land. The outcome of this study as well as a re-examination of the fallow system may in the end affect the calculations of the gross area which needs to be covered by irrigation works in order to use a given supply of water.

The sequence in which new areas are to be supplied with irrigation is governed partly by purely technical factors. Within the limits set by these technical factors, however, the selection of the areas to be irrigated should take into account the agricultural value of the land, its proximity to potential settlers and its ownership. In making its recommendations regarding new irrigation systems, the Mission has sought to give appropriate weight to all these factors. It was not always possible to arrive at a considered judgment of the agricultural potentialities of various areas, so that on this ground alone its suggestions may be subject to revision. Regarding the ownership of lands which could be irrigated, the Mission had no information. Presumably most of this land is in

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state ownership. In any event, as long as it is technically feasible and not more costly, it will be desirable to give preference to the irrigation of good agricultural land remaining in state ownership because such land can be used for distribution among small-holders.

Expansion of Irrigation—the Euphrates

Except for a narrow band on both banks of the Euphrates between Hit and Hindiya and some smaller areas along the lower Euphrates, which are irrigated directly from the river by pumps, the irrigation systems of the Euphrates are served by a series of canals whose off-takes are above the Hindiya barrage. Nine of these canals serve the left bank of the Euphrates[4]; and only two[5], the right bank. The Hindiya barrage was built primarily to increase the intake into the most important of these canals—the Hilla. This canal, together with its three terminal branches—the Diwaniya, Dagharrah and Hurriyah canals, is supposed to irrigate a gross area of 2,333,000 masharas. The supply of water, however, is sufficient to irrigate only about 35 percent of the cultivable area commanded by the Hilla canal system. It has already been recognized, therefore, that the additional water made available from the Habbaniya should, in the first instance, be used to increase the irrigation intensity in the Hilla canal system to the standard 50 percent. The Development Board has already reserved ID 900,000 to remodel the Hilla canal in order to bring about the necessary increase in its capacity from 114 to 175 cumecs at its head and from 57 to 87 cumecs at its tail. As will be noted below, an additional enlargement of the canal's capacity will be necessitated by further expansion of irrigation. While the Haigh Commission contemplated carrying out the required increase in capacity in two phases and proposed to rely partly on erosion as a means of attaining the needed capacity, the Mission believes it desirable to give the Hilla canal its final outline from the very beginning and to avoid reliance upon the rather erratic effects of erosion. At the same time, the course of the canal should be straightened and precautions taken to reduce losses by infiltration at the resulting low points.

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[4] Saglawiyah, Abu Ghuraib, Yusufiyah, Latifiyah, Iskandiriyah, Musayib, Nasiriyah, Kifl and Hilla.

[5] Husseiniyah and Beni Hassan.

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

ANNEX C

AGRICULTURE AND ANIMAL HUSBANDRY

I. Introduction

The main features of agriculture and animal husbandry in Iraq have already been set forth elsewhere and are only briefly recapitulated here.[1] Barley, wheat, rice, dates, other fruits and vegetables, and, more recently, cotton are the principal crops. Animal husbandry is of great importance but at present is really not integrated with agriculture. There is virtually no mixed farming. Crop and livestock yields are very low. Poor feeding is the principal cause of the low productivity of livestock. Low crop yields are attributable to poor drainage in the irrigation zone, to the failure to maintain soil fertility through the use of manure and fertilizer and the cultivation of soil-building crops, and to inadequate tools of production. Advances in agricultural techniques are seriously hampered by the poverty and ignorance of the fellahin who cultivate the soil and by the lack of interest displayed by most of the large landowners in improving agriculture. While there are extensive lands that can be put to the plow, particularly if more water is made available, a substantial portion of the land now in exploitation may be said to be overpopulated considering the present level of agricultural technique.

An increase in production is urgent. The standard of living which now prevails on the land is deplorably low. At the same time the population is increasing at a rate that can be expected to grow more rapid as public health improves. Output can be greatly increased both by extending the area under cultivation and by raising the productivity of land already being exploited. Primary emphasis has hitherto been placed on the first of these, and large new water storage and irrigation schemes are being planned.[2]

[1] See Annex A, *Basic Factors and Conditions.*
[2] See Annex B, *Flood Control, Irrigation and Drainage.*

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XII. Forestry

311 137 Anyone who contemplates the treeless plains and the barren mountains of Iraq is quickly persuaded of the need of afforestation. The forest area comprises only 25,500 square kilometers in the four northern provinces, and of this area only 17,000 square kilometers is covered by what may really be classified as forest. 33 The remainder is in forest pasture and sub-Alpine shrub. Yet forestry has received little attention. The only trained forester in Iraq is the foreign director of the Forestry Division which is subordinated to the Department of Agriculture. His staff is inadequate to provide proper protection of existing forests, let alone to undertake forest development. Only a small amount of afforestation, soil reclamation and propagation work is in progress. There is no modern forest law. Forests suffer severely from indiscriminate cutting for fuel and charcoal, overgrazing by livestock, shifting cultivation and fire. In the clearing of land for cultivation in the mountainous areas of the North, forest and pasture have been destroyed and land laid waste by erosion.

Afforestation is of vital importance not only to check erosion and help prevent floods but also ultimately to meet the acute shortage of timber for building and fuel. In the plains belts of trees are needed to serve as windbreaks. A detailed forestry program has already been set forth in a lengthy report by a British expert. The Mission can only urge that his recommendations be carried out.

The first step should be to build up an adequate forestry staff and to enact a satisfactory forest law. The Department of Forestry should be given a status equal to that of the present Department of Agriculture. Trained foresters will be required not only at headquarters and in the field but also at the forestry research stations at Abu Ghuraib, Bakrajo and Erbil. Initially some of the foresters, including the director, will have to be recruited abroad. A course in forestry might be given in the agricultural schools at Abu Ghuraib.

In the northern mountains the existing forest areas should be preserved primarily as a means of protecting the catchment of the Tigris and its principal tributaries. Controlled, rotational grazing will be necessary to protect these forests. To furnish a supply of

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

timber, at least 5,000 square kilometers in the valleys of the main rivers in the north ought to be afforested by means of irrigated plantations of quick-growing species such as poplar, eucalyptus, tamarisk, ash, plane and shisham. Such forests should be able to furnish timber in growing amounts in 15 to 20 years.

It will be at least equally important, however, to plant trees in irrigated plains of central and southern Iraq. The ultimate goal should be to devote at least 10 percent of the irrigated areas to forestry in the form of farmers' woodlots, plantings along roads and canals, windbreaks and shelter belts. In the new settlement areas farmers might well be required to plant a specified area in trees. Measures such as these will make timber available in the immediate vicinity where it is sorely needed.

The Development Board has recognized the need for some additional expenditure on forestry by tentatively setting aside ID 250,000 for this purpose in its five-year program. It is urged that this amount be raised to a total of ID 750,000 over the next five years. More could probably not be spent in this period because staffing and organization will take time and attention. In the ensuing five-year period, however, the amount might well be doubled.

XIII. Settlement of New Land

In the future much of the increase in agricultural production will inevitably come from the settlement of new land. Iraq is one of the few Middle Eastern countries which have large reserves of cultivable land. While the official estimates, which indicate that the area under cultivation can be almost tripled, may be questioned, there is no doubt that there are vast areas both in the rain-fed zone and in the irrigation zone which can be put to the plow. When water from the Habbaniya and Dokan reservoirs becomes available, for example, it will be possible to extend the area under cultivation from about 11 to 15 million donums; and if the Bekhme dam is built, still additional areas can be irrigated.

The way in which these new lands are settled and developed will in many respects be critical for the future of Iraq. If reserved

3sRoyal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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cent of Iraq's oil revenues. The cost of the initial programme of the Board, as approved by Parliament, covers the years 1951–6 and is estimated at ID155,374,000. It provides for studies and research and training of Iraqi engineers and technicians; an ambitious plan for irrigation and drainage, including a number of major projects; the construction of roads, bridges, hospitals and health institutes, schools, housing for labourers and officials and public buildings; land reclamation, afforestation, agricultural research, animal husbandry; development of water-supplies, health resorts, aerodromes; industrial and mining projects. The programme of the Development Board has taken account of the report[1] of the mission of the International Bank for Reconstruction and Development, which, at the request of the Government of Iraq, visited Iraq in 1951 to review the country's economic potentialities and assist the Government to formulate a long-term programme for the further development of productive resources.

By the end of 1953 measures had been taken towards the implementation of practically every item of this programme. Of the major projects, work on the Tharthar scheme for Tigris flood control was well in hand and its completion scheduled for March 1956. The Habbaniya scheme was sufficiently advanced to permit flood control of the Euphrates; work had already begun on the barrage, which would be completed at the end of 1955. Preliminary work was in progress for the construction of dams on the rivers Diala, Lesser Zab, and Greater Zab, and schemes were under investigation for drainage and water utilization in the south and the generation of hydro-electric power. The construction of a bitumen refinery at Qaiyara, south of Mosul, was imminent and designs were complete for cement plants at Mosul and Kirkuk and a cotton textile factory of an annual capacity of 25 million square yards in Mosul.

Agriculture.

Iraq is predominantly an agricultural country. It is estimated that about 80 per cent of the population derives its living directly or indirectly from the soil and, apart from oil, exported products are almost entirely agricultural. Nevertheless only some 20 per cent of the total area of the country is cultivable, and only some 36 per cent of this is actually under cultivation. The cultivable area has two main divisions: first the region to the north and east of a line running south of Mosul and Kirkuk to Khanaqin, where the rainfall is sufficient to permit the cultivation of winter crops without irrigation; and second, the

[1] IBRD, *The Economic Development of Iraq* (Baltimore, John Hopkins Press, 1952).

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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alluvial plain of the centre and south, where agriculture depends on the water of the Tigris and Euphrates for irrigation by pump, flow, or natural inundation. In the first region rainfed winter cereals predominate, with millet, maize, sesame and other summer crops grown as subsidiaries where irrigation is possible. Kurdish mountain crops include tobacco and grapes. In the central canal zone (Faluja–Baghdad–Diala) wheat and barley are the principal winter crops; summer crops include millet, maize, sesame, and the produce of market gardens near Baghdad. From here southward barley and rice predominate, with a great concentration of palm groves in all the riverain land, especially around Basra on the Shatt al-Arab. The deserts of west Iraq afford extensive grazing after the winter rains.

Cultivation is based traditionally on the following system. In the south, either half the land is left fallow and half tilled each year, or half is sown with a summer crop, half with a winter. In the north the land may be continuously cropped for two or three years, and then left fallow for the same period. The use of artificial fertilizers is practically unknown, but the land is sometimes manured by allowing shepherd tribes to pasture their flocks on fallow ground.

Although the vast majority of agricultural implements employed are still traditional and primitive, modern machinery is being imported steadily. A high target has been set, especially since the war, and Government service stations have been established. In 1950 imports were as follows: tractors 166, ploughs 146, cultivators 26, combines 98, threshers 1, grain drills 21, disc harrows 14. Oil pumps for irrigation are even more in demand than tractors; in 1949–50 there were 3,600 in use, with an average horse-power of 36.

The agricultural development of the country is organized by the Ministry of Agriculture, which contains departments for plant breeding and protection, horticulture, forestry, agricultural machinery, animal husbandry and veterinary services.

Crops

The principal crops, with their production in 1950 in thousands of metric tons, are *Winter*: barley, 851; wheat, 520; lentils, 6; vetch, 3·5; linseed, 0·2; *Summer*: rice, 242; cotton, 25; sesame, 10; maize, 21; millet 19; green gram, 12; tobacco, 3 (purchased by Government Tobacco Monopoly); dates, 250.[1] Of the two most important crops, barley and dates, the former is grown mainly in the northern plains and the *liwas* of Kut, Muntafiq, Hilla, and Diwaniya in the irrigated zone. With a

[1] ibid. p. 146.

5: Harrison D-4 (1912-1924) 1924 M1 Middle East
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133 delta of two rivers—the Euphrates and the Tigris. With insignificant exceptions, it is one vast level expanse made up of the rich silt that these rivers have brought down. It contains no physical features whatever that call for comment except the plains and the rivers, unless we mention that combination of plain and river which covers a considerable area, namely the marsh. In the past this district was the seat of some of the great empires of antiquity—Assyria and Babylonia and Persia. When Xenophon marched over it about 400 B. C., it was and had been for centuries one of the world's centers of power and productiveness. It supported a vast population in those days, how vast no one knows, but the ruins of ancient cities suggest that it must have been very great in-
312 deed. The basis of its greatness was the use of the Tigris and Euphrates rivers for irrigation. By this means the whole country had been transformed into one vast garden. The area was not so large then as it is now, for year by year the delta encroaches on the sea. It is supposed that in ancient times the sea reached up as far as Gurna at least, and that is a hundred miles from the present mouth of the river.

Under the Mohammedan caliphs of Baghdad the irrigation dams, waterways and smaller canals that had existed for centuries were allowed to fall into greater and greater decay. The Mongol invasion of Mesopotamia, which culminated in the capture of Baghdad in 1258 A. D., resulted in the complete destruction of this ancient system of irrigation. Ever since it has been in ruins, but the courses of the larger waterways are still distinguishable, and engineers tell us that they can decipher the en-
162 tire system. The country has been a desert since that
311 day, populated by nomad tribes who roam over the vast

1 [The Tigris-Euphrates Delta Area -- Analyst]

5: Harrison D-4 (1912-1924) 1924 M1 Middle East
Iraq MH1

level plains and raise, by means of the scanty rainfall, a meager amount of wheat and barley in favorable seasons.

Along the rivers in their upper courses are a few gardens, irrigated by means of various draught animals and water-wheels, which elevate water from the stream to the level of the land above. At Gurna the Tigris and Euphrates join to form one river and at Mohammerah the Karun empties into this united stream. The three rivers thus flow into the ocean as one enormous waterway, known locally as the "Arab River." For the last hundred miles before the sea is reached, the fresh water of the river ebbs and flows with the tides, and by cutting outlets along the river banks gardens may be automatically irrigated twice a day if so much water is desired. Along these lower stretches each bank of the river is lined with beautiful gardens, which reach a depth of some miles in places and extend in practically an unbroken expanse all the way up to Basra and in less prolific culture even as far as Gurna. These date gardens are beautiful things, beautiful for what they are now, and more beautiful still as a suggestion of what all Mesopotamia might be. They are also one of the most melancholy things in the world as reminders of what the past developed and the present has wasted.

The land has enormous resources for agricultural development. That whole vast district may be made into the garden spot of the earth. The soil is the best in the world, river silt hundreds of feet deep. It is as level as a parlor floor, with just enough pitch between the big rivers, and between the north and south, to make irrigation easy. All that is necessary is a perfected system of irrigation, and although the necessary investment would

5: Harrison D-4 (1912-1924) 1924 M1 Middle East
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312 185 be large, running up to hundreds of millions of dollars, it should bring excellent returns. The trouble hitherto has been the unstable character of the government and the consequent risk to which any such investment would be exposed. During the time of the spring high waters, a disaffected tribe might obtain control of some important dam and with one stick of dynamite destroy nearly the whole system. But with a stable government the project should be one of great promise. The water is at hand, three riverfuls of it, and as if to prove the practicability of the dream, we know that in the ages of antiquity these resources were utilized for this purpose and with the most splendid success. Whether there is actually water enough to transform every square mile of the country into a garden or whether the supply of available land will prove to be more than the water can care for, especially now since the area has so greatly increased, can only be told after the project is tried. Certainly there is water enough for hundreds of square miles, enough indeed to make Mesopotamia one of the richest countries of its size in the world. Already one new irrigated area has been developed by the Hindiya Barrage built by a British concern between 1911 and 1913 as the first step in the reconstruction of the ancient irrigation system. The erection of this great barrage on the Euphrates River was due to the Young Turks, the dam being the first unit in a comprehensive irrigation project for the entire country which had been drawn up for them by the noted engineer, Sir William Willcocks. It is only a beginning, but it has made the desert rejoice and blossom as the rose over many square miles of territory.

311 162 With the exception of the rich petroleum deposits which are said to exist throughout the Mosul district and

5: Harrison D-4 (1912-1924) 1924 M1 Middle East
Iraq MH1

311 which may play a prominent part in the economic development of the country, Mesopotamia may be regarded as a purely agricultural land. From this standpoint it is best considered in two sections. There is the river-irrigated date-growing district to the south, with Basra as its center, and there is the district to the north inhabited by nomads, semi-nomads and river agriculturists, with its principal center in Baghdad and a second capital further north in Mosul.

312 The date gardeners along the river in the Basra territory resemble in many ways the cultivators that can be seen in any oasis town in Arabia. Their work is very similar. Irrigation systems must be constructed. Channels must be provided to carry the water to the roots of the date palms and to the squares of alfalfa and other crops. There is this difference, however, that the water flows of itself. Twice a day the tide of the ocean backs up the water of the great Arab River as far as Gurna, about a hundred miles from the sea. The extensive cultivation of dates stops at that point. The water can be shut out of a field if so desired, or the gates can be opened and as much allowed to enter as is needed. The supply is unlimited and can be had twice a day the year around. The soil is ideal. It is rich and hundreds of feet deep. In natural endowment Mesopotamia is a paradise for date gardeners.

511 As a matter of fact, however, that country is far from a paradise for date gardeners. The favorable conditions ought to make their work easier and their remuneration greater, but the facts are otherwise. Their condition is worse than that of the cultivators in Hasa. It is the story of the Bahrein pearl banks over again. The increased wealth of the Bahrein pearl banks has not bene-

5: Harrison D-4 (1912-1924) 1924 M1 Middle East
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well as many western food products, such as candies and fancy crackers. The country is lighted by kerosene oil, much of which comes from America. Numbers of automobiles are to be seen, and in some places even electric lights. All these things represent the gratification of wants that did not exist previous to the entrance of western influence.

There has also been a development of the export trade of the country. However, the articles for export are not many nor of great amount. Dates are the principal product, together with a certain amount of wheat and rice and some hides and wool. In the long run, of course, no more can be brought into the country than is sent out of it, and the trade of Mesopotamia cannot increase to any great figure until her own natural resources are developed.

Just how far these various modern improvements will go remains to be seen. If the British continue in power, there is no doubt that material development will be steady and sound. If they evacuate the country and leave it to an independent local government, progress will be much slower, to say the least. During the war wages went up to fabulous heights, and although prices of food and rent advanced even more, there is no doubt that the sum total of the war's influence was to raise the standard of living in the cities and to stimulate enormously the desire for many western products and for western education. Just now there has been a very sharp reaction; times are hard, work is scarce, wages are poor. Everything western is discounted, and the cry is for an independent national development with the elimination of every foreign influence. The common people long for the golden days of the Turks, forgetting with a completeness quite as-

15: Tannous N,G-5 (no date) 1951 M1 Middle East M1
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Unlike Egypt, Iraq is a sparsely populated country relative to its land resource. Yet we find there the same conditions of landlessness, and low levels of living among the peasant folk. More serious still, we find in that country a great agricultural potential which is threatened by the prevailing destructive system of land tenure.

This fertile land of the ancient Tigris and Euphrates rivers has a total potentially cultivable area (mostly by means of expanded irrigation) of some 25 million acres. The present area that is under cultivation each year, however, is less than 6 million acres. There is no doubt that capital and technical aid from the West will make it possible for Iraq to realize this tremendous potential. The serious question, however, is whether development will be attempted on the present shaky foundations of feudalism, absentee ownership, and sharecropping, or on the sounder and more stable foundations of a thriving rural community that is emancipated through its ownership or control of the land. The answer, one way or the other, will be of grave consequence to the future of Iraq.

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The following is a brief summary of the situation as it now exists. Less than 0.5 percent of the land is owned privately in fee simple. About 36 percent is state domain which has been leased out more or less permanently to individuals. Over 58 percent is held directly and fully by the state, and is leased out on a yearly basis. These figures indicate clearly that the fate of the land resource has not yet been fully decided as in the case of Egypt. The major portion of it is still in the hands of the state, which could dispose of it either in favor of the landless cultivator and tribesmen, or in favor of the absentee owner and the tribal chief.

The land that is now under cultivation (whether privately owned or leased from the state) is predominantly in the hands or under the control of the semi-feudal tribal chief and the large owner from the city. In either case, absenteeism prevails. The peasants, consisting of village folk and semi-settled tribal people, are in the majority of cases landless sharecroppers. They raise crops and receive a share ranging from 20 to 50 percent of the produce, depending upon whether they supply the seed, the

25: Warriner S-5 Geodate 1948 M1 Middle East
Iraq MH1

Chapter VII

IRAQ

LAND AND POPULATION

2.41 3121 THE peculiar feature of agriculture in Iraq is that in the greater part of the country extensive farming is practised on irrigated land. Elsewhere in the Middle East irrigation is always accompanied by a great intensification of production, but in Iraq extensive and shifting cultivation is practised even on irrigated land, and both land and water are wasted.

• 311 The productive area of the country falls into two halves—the rainfall zone in the north, and the irrigation zone of the south, on the alluvial plain between the two rivers.

3121 In the irrigation zone, there is no controlled system of irrigation, as in Egypt. Each river has a modern barrage, the Tigris at Kut, and the Euphrates at Hindiya, but both are situated low down towards the delta, and command a comparatively small area of cultivation. Apart from the areas served by the barrages, the main system of irrigation is by flow, that is, by basin irrigation.

There are two flood periods, December to March, due to winter rains, and March till May, when the snow melts in the higher reaches of the rivers, and there are therefore two crop seasons. The danger of flood is always present, because the level of the rivers in many parts is a few feet higher than the level of the plain. Some progress has been made in recent years in flood control, as for instance the Habbaniya escape, but there is great need for a reservoir in one of the upper tributaries of the Tigris to prevent flooding in the spring and to release extra water in the dry season.

311 In recent years there has been a rapid extension of cultivation as population has increased. In 1918, the total cropped area in the irrigation zone was only 936,500 acres, and in 1943 it had increased to 4,241,718 acres.

The classification of land in Iraq presents difficulties, because not all the cultivable area is cultivated and not all the cultivated area is cropped.

The main divisions in 1943 were as follows:

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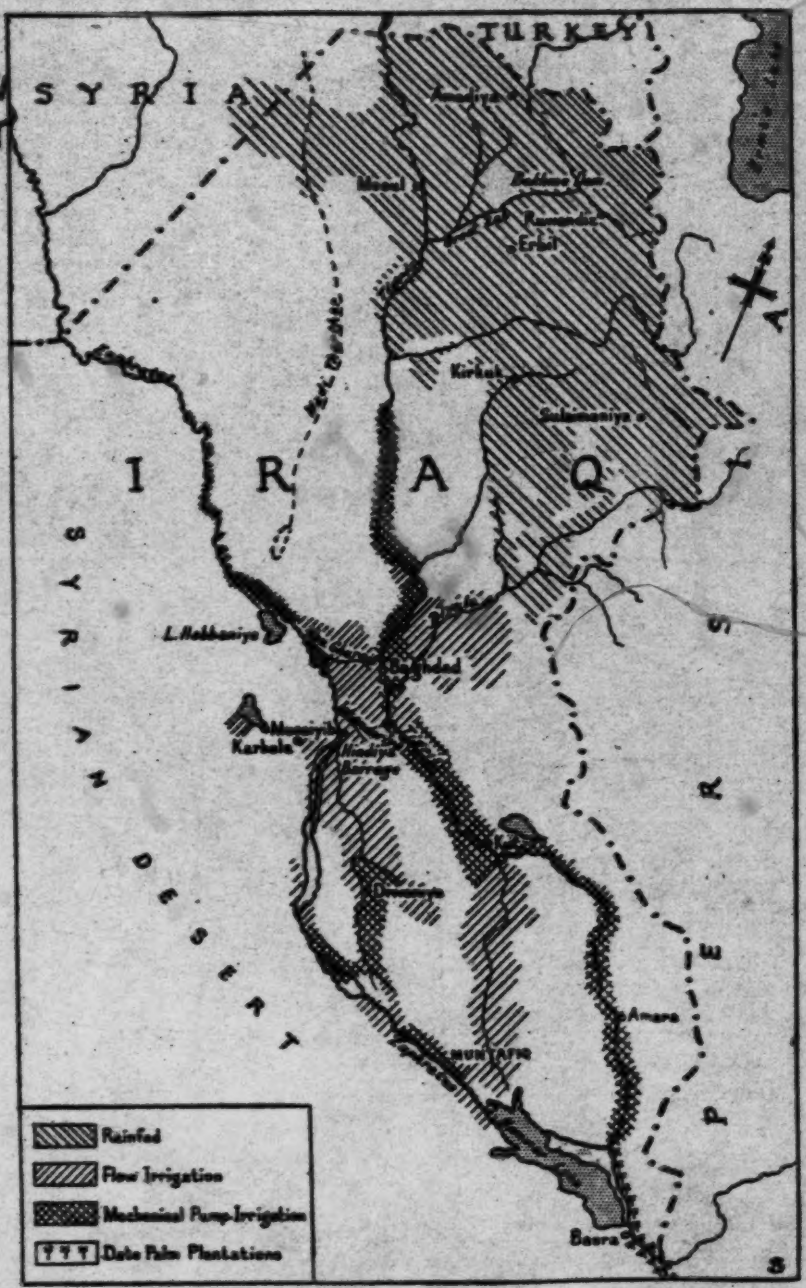

IRAQ: TYPES OF CULTIVATION

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LAND UTILIZATION IN IRAQ

	Square Kilometres	Acres
311 (a) *Total Area*	453,500	112,060,000
(b) *Rainfall Zone*		
312 1. Approximate gross area of cultivated and cultivable lands	41,000	10,131,000
2. Approximate *shitwi* (winter) and *saifi* (summer) areas at present cultivated annually ..	6,000	1,483,000
(c) *Irrigation Zone*		
1. Approximate gross area of cultivated and cultivable lands	80,000	19,770,000
2. (a) Area of *shitwi* (winter) cultivation capable of annual irrigation by river supplies ..	16,000	3,900,000
(b) Area of *saifi* (summer) cultivation capable of annual irrigation by river supplies ..	4,300	1,054,000
3. *Shitwi* (winter) areas at present irrigated annually	12,100	2,947,000[1]
4. *Saifi* (summer) areas at present irrigated annually	4,000	1,001,000[2]
5. *Shitwi* and *saifi* areas at present cultivated annually (total of 3 and 4)	16,100	3,948,000
6. Garden areas at present irrigated annually	1,200	309,000
7. Total area cultivated (5 and 6)	17,300	4,257,000

Source: Ahmed Sousa, *Iraq Irrigation Handbook*, Part I: The Euphrates (Baghdad, Directorate General of Irrigation, 1944), pp. 11–12.

Thus the total cultivated and cultivable and cropped areas are:

	Acres
Rainfall Zone	
Cultivated and Cultivable	10,131,000
Cropped	1,483,000
Irrigation Zone	
Cultivated and Cultivable	19,770,000
Cropped	4,257,000
Total Cultivable Land	29,901,000
Total Cropped Land	5,740,000

The cropped area in the irrigation zone is divided between:

Winter crops	2,947,000
Summer crops	1,001,000
Garden areas (i.e., dates, etc.)	309,000
TOTAL	4,257,000

311 The cropped area amounts to only one-fifth of the cultivable area, and this needs explanation since it suggests that great increases in cultivation are possible. Within the area cultivated

[1] By lift from pump installations approximately 1,591,380 acres; by flow from perennial canals approximately 1,355,620 acres.

[2] By lift from pump installations approximately 560,560 acres; by flow (rice and other summer crops) approximately 440,440 acres.

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311 at any one time, a large proportion of the land is left fallow, as water supplies are insufficient to irrigate more. The cultivated land is approximately twice the cropped area, but under present conditions it would not be possible to crop the whole area owing to shortage of water. If water could be stored for the summer period, a crop could be sown during the summer in the irrigation zone. When the Bekhme dam is completed, the summer supplies of water will be so large that the area under summer crops could be greatly increased.

Not only is much land left fallow within the area which is being cultivated at any one time, but the area of cultivation shifts within the irrigation zone at intervals of several years, because after a period of cultivation the soil becomes saline. This results from the lack of drainage. Only in the areas where there is natural drainage from the Euphrates to the Tigris near Baghdad, or further south, where the Tigris drains into the Euphrates, is there no danger of salinity. When the soil gets saline, the landlord abandons it and transfers cultivation to new ground, and new canals are dug. This is of course a wasteful system, and can only continue as long as there are ample reserves of land. Thus an increase in the area cultivated depends on (1) a general irrigation system, (2) a general drainage system.

311 The question of how far it will be possible to extend the area under cultivation depends on how great an increase in total water 312 supply is practicable. It is water, not land, which is lacking in Iraq. Varying estimates are available; Sir William Willcocks considered that the amount of land which could be put under winter cultivation in the irrigation zone with the existing average supplies of Iraq's rivers would be 7,410,000 acres or two and a half times the present winter cropped area.[1] Ahmed Sousa, in the estimates given in *Iraq Irrigation Handbook*, puts the total area which could be put under winter crops with the existing water supplies at 3,900,000 acres,[2] an increase of one million acres on the present area cropped.

On this estimate the maximum addition to the area under winter cultivation may be about one million acres; and possibly half a million acres could be added to the summer cropped area

[1] *Irrigation of Mesopotamia*, 2nd edition (London, Spon Ltd, 1917), p. 9.
[2] p. 5.

25: Warriner S-5 (no date) 1948 MI Middle East
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which now amounts to one million acres. More might be added by water storage schemes. At present several large new schemes are under consideration. These involve flood control by the construction of the Bekhme dam on the Great Zab, and an extension of the Habbaniya reservoir. In addition to the Bekhme dam a scheme for flood irrigation in the Wadi Tharthar is being considered. A survey commission is now preparing a report on these developments, but so far no estimates have been made of the area of land likely to be brought into cultivation.

At present there is no shortage of labour. The population is small in relation to the area cropped, but it is growing rapidly. In 1931, according to Dowson, the total population was 2,824,000, of which 2,246,000 were estimated to be rural, including 895,000 settled population and 1,351,000 still living in tribal conditions.[1] Estimates for 1943 put the total population at 4,500,000, of which the rural population was 3,500,000. Some regions, Basra, Karbala, Dulaim, and Muntafiq are densely settled, while others, chiefly in the north, Mosul, Erbil, Kirkuk, are settled very sparsely. The area of cropped land per head is 2 acres, and the area of cultivated land perhaps as much as 4 acres.

LAND TENURE

It is clear that Iraq has greater prospects of agricultural expansion than any other Middle East country. But to the development of these potentialities the greatest obstacle is land tenure. Sir Ernest Dowson, in his classical report on the subject, says: 'The injurious effect of the existing welter of uncertainty and dispute upon both the agricultural prosperity of the country and public order, can hardly be exaggerated. Every one directly or indirectly concerned with agriculture in el 'Iraq must know many individual cases in which the development and use of the land has been gravely obstructed by the widespread insecurity and confusion of rights. Indeed the most diligent inquiry would be unlikely to reveal anywhere any appreciable number of holdings, large or small, held in undisputed possession and free from hampering and conflicting claims. It needs no great effort of the imagination to appreciate the blighting effect of these unhappy conditions prevailing throughout the country, upon the

[1] Sir Ernest Dowson, *An Inquiry into Land Tenure and Related Questions* (Letchworth Garden City Press for the Iraqi Government, 1932), p. 12.

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CHAPTER III

COTTON IN IRAQ

Iraq today is on the verge of a great transformation—from a land of want to a land of plenty. Probably the greatest rehabilitation program that has ever been undertaken in any country is in progress to make the Garden of Eden bloom again.

For generations the lack of capital had been the greatest limitation to the country's progress. Now tremendous new sums created by oil royalties are being spent in building large-scale irrigation works, constructing roads, financing industries, and improving the health and education of the people.

Since the dissolution of the Ottoman Empire after the first World War, the people have manifested a strong and continuing interest in improving their country. A great deal was done by the British during the period of their mandate, especially in the field of transportation. Probably even more was done by King Faisal when the country became a sovereign constitutional monarchy after the end of the mandate in 1932. For instance, in the last two decades the number of schools increased about seven times. More important, the people, for the first time in recent history, showed real interest in general economic improvements. More capital probably was invested in industry in the past 25 years than for several preceding centuries.

The need and the opportunity are both apparent. On the one hand, the resources are abundant. Iraq is a fairly large country of some 175,000 square miles, the size of Mississippi, Louisiana, Arkansas, and Tennessee, about two-thirds of which are deserts and mountains unfit for intensive cultivation. Another 35,000 square miles, about 20 per cent of the land area, are in the Tigris-Euphrates lowlands, the largest alluvial area in the world, almost twice the size of the deltas of Arkansas, Mississippi, and Louisiana combined. Extensive highlands between the lowlands and the mountains are excellent for cultivation.

BACKGROUND

This great Mesopotamia, or "land between the rivers," was once one of the wealthiest regions of the world—the home of Adam and Eve, the Sumerian princes, Nebuchadnezzar, and the Arabian Nights, and the site of Babylon and Nineveh. This land has fostered at least three distinct civilizations through 5,000 years of history, and it cradled our present Western society.

These fertile soils are said by historians to have supported 15 to 20 million people in Biblical days. Now 5 million struggle to keep alive amidst

29:Dunn S-4 (1952)1952 MI Middle East
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161 poverty probably unequalled anywhere in the world. Throughout the centuries, production has declined as neglect and misuse have drained the fertility from the soils and permitted salt to seep in and ruin for cultivation thousands of acres in this Garden of Eden.

[146] The people, undernourished and ravaged by disease, have degenerated as the land has deteriorated. One would never guess that the present inhabitants, oppressed by poverty and ignorance, were in any way related to those men who shaped the history of the world for so many centuries.[1] Many

1 [Text continues on p. 88--Analyst]

Table 27

IRAQ: Specified Exports as Per Cent of Total Exports
1937, 1949, 1950, and 1951
Value

Item	1937	1949	1950	1951
	Per Cent			
Crude Petroleum	65	58	51	51
Barley	7	20	19	21
Dates	6	11	10	19
Others	22	16	20	9
Total	100	100	100	100
Total Value Converted to Millions of Dollars	79	92	126	166

SOURCE: International Monetary Fund.

Table 28

IRAQ: Exports to Specified Countries as Per Cent of Total Exports
1937, 1949, and 1950
Value

Country	1937	1949	1950
	Per Cent		
France	51	25	38
United Kingdom	18	14	12
United States	7	2	6
India	2	9	3
Netherlands		8	7
Others	22	42	34
Total	100	100	100

SOURCE: International Monetary Fund.

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COTTON IN THE MIDDLE EAST

Table 32

IRAQ: Area Under Cultivation by Crops as Per Cent of Cultivated Area 1948

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Crop	Per Cent of Total
	Per Cent
Rice	12.3
Sesame	2.5
Maize	1.4
Green Gram	1.0
Millet	.9
Wheat	40.2
Barley	40.6
Linseed	.1
Lentils	.4
Chickling	.3
Cotton	.3
Total	100.0
Total Acres under Cultivation	5,877,494

SOURCE: Office of Foreign Agricultural Relations, United States Department of Agriculture.

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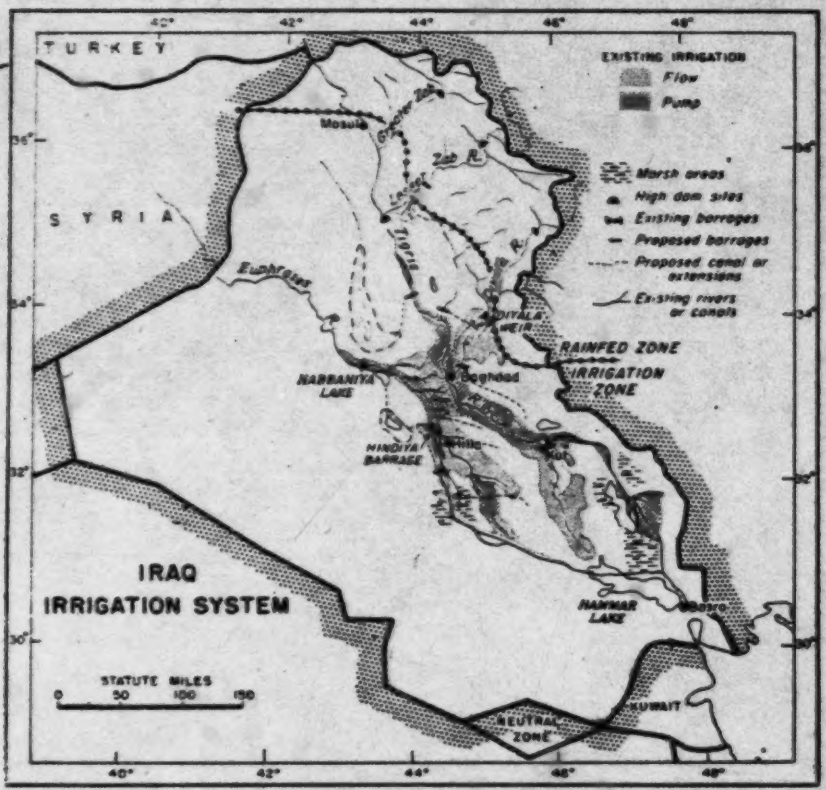

29:Dunn S-4 (1952)1952 MI Middle East
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Tigris, and a large reservoir at Bekhme in the mountains on the Great Zab. The Mission endorsed these projects and recommended others to compensate for diversion and to balance the systems. 312

The Iraq Irrigation Development Commission believes that the area under irrigation can be increased to 12 million acres by the installation of additional storage facilities, by drainage, rehabilitation, and by new supplies of water.[44]

It is agreed generally that the rain-fed zones in the north must continue to depend primarily on rainfall. Although no accurate estimates are available, the total area which might be available for cultivation in this area is thought to be substantial.

Along with irrigation, an important means of improving productivity is drainage. This would have an immediate effect; other proposals depend on the necessarily slow process of persuading farmers to abandon age-old methods of cultivation. 241 311

As much as 20 to 30 per cent of the cultivated land is said to be abandoned because of salt accumulation. On a large part of the remaining land, yields have declined as much as 50 per cent. Drainage—almost totally neglected—the report concluded, should therefore be prosecuted with utmost vigor.[45]

MECHANIZATION

Because of the cost, the Mission predicted that mechanization would proceed slowly. This conclusion was reached in the face of experience which shows that tractor ploughing may increase yields 20 to 50 per cent, largely through more effective destruction of weeds and better preparation of the soil.[46] No doubt mechanization will become increasingly important as additional land is placed under cultivation and labor becomes scarce. 241 407

About 750 tractors and 320 combines are in the country at the present time. A government agency owns 75 of the combines and 81 tractors and plans to import an additional 2,500 tractors and 550 combines with auxiliary equipment.[47] About 50 per cent of the machinery will be retained at government-owned tractor stations and rented or let out under contract.[48] The rest will be sold on easy terms to the farmers.

The International Bank approved a modified version of this machinery program but suggested that rental charges be increased to make the project self-sustaining, and adequate repair shops and demonstration and training programs were recommended.

SOIL BUILDING

It is obvious that the fertility of the soil needs to be replenished. [134] 242

Cultivation of soil-building and forage crops is said to be virtually unknown. Attention needs to be given to the production of legumes. Commercial fertilization must be studied and, if possible, plants should be built to produce inorganic and organic materials. Soil analyses also are generally needed.

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[44] *Economic Development of Iraq*, *op. cit.*, p. 16.
[45] *Ibid.*, p. 17.
[46] *Ibid.*, p. 18.
[47] *Ibid.*, p. 19.
[48] *Final Report of the United Nations Economic Survey*, *op. cit.*, p. 33.

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369 others almost for life itself. In their position they cannot help themselves, but
423 go on generation after generation at the same poor level of living. There are no
471 committees or councils to represent themselves or which government sources might
511 utilize for participation in family and village development programmes.

Many other problems such as undeveloped village crafts and industries, lack
369 of access roads and marketing facilities might be added. Enough has been
433 described to indicate the great and urgent need for a broad programme for assistance
511 to the rural population of the country. It is recognized that these are not new
conditions but part of a way of life that has been characteristic of these people
for centuries. The wealth and labour of the land through all these years has been
for the welfare of the few who ruled. It has been only within comparatively recent
years that the leaders of Iraq have become concerned about or in a position to help
in the improvement of rural affairs.

B. CAUSES OF CONDITIONS

369 Many factors beside tradition have contributed to the present plight of the
566 rural people. Essentially their problems stem from the lack of security on the
land, the lack of financial means or credit to develop their farming or crafts and
the lack of knowledge to promote their own advancement.

1. System of Land Tenure

369 The major and self-evident cause of present poverty is the lack of ownership
of land and of any security under the tenant system. The tenant owns no farm or
423 house. He must shift his farming operations or even leave the land as he is
471 directed. Therefore, he has no base on which to build a better life or earn a
better income. The small land farmer who owns his own land frequently has an
insufficient amount to provide adequate income.

2. Lack of Credit

369 Credit for the small farmer or tenant is virtually unavailable. Both tenant
and small owner are subject to a system of sharecropping or credit which by
452 exorbitant rates leaves them with insufficient balance from their crops for their
566 own subsistence. In fact some tenants receive as little as 20 to 30 per cent of
their crop. Small farmers often have to forfeit their lands because they cannot
pay off their mortgages and work in the employ of their creditors. Rarely it was
found that a small farmer received a loan from the Agricultural Bank.

3. Poor Land Use

369 The landlord, however, does not always stand to make great profits. He loses
566 more proportionately than the tenant during crop failures when he must provide them
311 with food and receive no return. He loses continually from their inefficient
farming methods, their ill-health and limited ability to work and the uses to which
he puts his hands.

4. Lack of Knowledge and Training

369 Especially important among these reasons for poverty is lack of training and
871 information. The rural people are for the most part without education in its
212 broadest and most fundamental sense. First, there is a lack of ability to read
and write to obtain more information.

000 and write to obtain more information. Most rural people have not yet learned such
369 fundamental principles as crop rotation to enrich the land, the concept of germs,
311 or the principles of infection and contagion. Under their circumstances they have not been able to acquire a growing store of knowledge or of experience to pass down for the advancement of each successive generation. In other words, the people of rural Iraq have had little cultural heritage or growth.

5. Attitudes and Social Organization

369 Also fundamental to their poverty are attitudes derived from their social
366 position and relationships with their sheikhs and landowners. Virtually imprisoned
181 by their condition of total dependence and debt, rural people have developed deep
178 feelings of powerlessness and futility. Many of these attitudes stem from a weakening of historical tribal relationship in which there were greater reciprocal obligations between leaders and the people. Now they become unbalanced when the traditional tribal social system degenerates as sheikhs abandon their tribal responsibilities and take tribal lands as their personal possessions. The tribesman becomes detached from his social group. His dependence becomes greater upon the whims of his sheikh. This leader feels less and less obligation as the state and local governments assume those responsibilities for the care of the people which the sheikh formerly performed.

III. THE REQUIREMENTS FOR IMPROVEMENT OF RURAL PEOPLE

000 A. A PROBLEM REQUIRING TOTAL GOVERNMENT ACTION

The causes of the rural problems as briefly described obviously indicate that nothing less than a full scale attack upon them by all ministries and agencies of the government will bring about the desirable changes and improvements. Economic and social development of the rural people is not only necessary for their own welfare but for the welfare and progress of Iraq as a whole. A national economic and social development programme for rural peoples under the co-operative planning and direction of government leaders is needed. This programme should integrate into single, national, social plan of action the present and planned government activities of land and water development. The provisions should include as well as new plans for making ownership of farms available to tenants and landless people, credit, accessible to these small farmers at reasonable rates, instruction in new agricultural practices, establishment of public health and professional medical services available for all people, provision of education for every child, advice and demonstration in the improvement of housing, instruction in home and child care, establishment of social services for the needy, ill, blind and orphaned, construction of access roads to allow marketing of farm products from every village, development of village industries and the organization of communities for participation in an ultimate direction of their local affairs. This will take time, effort, money, careful study and planning, and increased inter-ministry and agency co-operation before it can be put into effect. The information and skills now exist to undertake this national campaign. It is a programme on which national leaders and with technical assistance from abroad can unite in their thinking and their efforts to build a solid agricultural economy as the foundation of Iraq.

64: Shwadran S-4 (no date) 1955 MI Middle East
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Chapter X

OIL AND DEVELOPMENT OF IRAQ

IRAQ MAY SERVE as an excellent study of the relation between oil production and the social and economic patterns of an underdeveloped country. Production of oil began almost simultaneously with the emergence of the independent state. Though Iraq's social and economic traditions were set when it was part of the Ottoman Empire and seriously bedeviled the growth and development of the new kingdom, the special Iraqi national patterns were being molded during the very period the oil was flowing in ever increasing quantity through pipelines hundreds of miles long to world markets. Moreover, Iraq had the benefit of Western guidance, the British administration, at first, and advice afterwards; yet during the first twenty-five years of oil production it would seem that the country did not progress as spectacularly as the oil figures (from 45,000 tons in 1927, to some 28,000,000 tons in 1953). The basic obstacles to the rapid social and economic development of the people and the transformation of the country could apparently not be overcome by the mere availability of oil, some technical knowledge, and royalties from the oil industry.

Before drawing any conclusions, we should examine some fundamental facts about the country, the people, and the factors which operated in Iraq to create the conditions prevailing there.

Land and People

The area of Iraq is about 175,000 square miles, and it has a population of approximately 5,000,000 people.[1] Because of the lack of sufficiently reliable data, as well as the cultivation

[1] Tabulations of the returns of the first census, taken on Oct. 19, 1947, showed a population of 4,799,500. U. S. Dept. of Commerce, *International Reference Service*, Dec. 1948, 2.

64: Shwadran S-4 (no date) 1955 MI Middle East
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311 practices of the Iraqi peasants, no exact figures are available as to the cultivable and cultivated areas or the extent of the uncultivable part. The first comprehensive survey of land tenure, methods of cultivation and other related questions was made by Sir Ernest Dowson in 1930. He estimated the cultivable area as 92,000 square kilometers—41,000 in the rainfall zone, and 51,000 in the irrigation zone—and that only a fraction of the zones, possibly one-fifth to one-tenth, was cultivated in any one year.[2] In 1945 it was estimated that out of the total of some 112,000,000 acres, the potentially cultivable area was about 30,000,000, and that only about 6.5 million were irrigated.[3] The United Nations reported in 1949 that only 3,200,000 hectares—1,300,000 under irrigation—were cultivated, out of 6,000,000 cultivable.[4] In the same year the British estimated the cultivable area as 35,000 square miles and a small portion as utilized in any one year.[5]

The International Bank Mission to Iraq in 1951 could not state with any certainty the cultivated and cultivable areas. According to the Mission, the official estimates indicated that the amount of cultivable land was about three times that under cultivation, but the definition of cultivability was not established and no accurate figures were available.[6]

Regardless of the exact statistics, it is universally agreed that although about 80 per cent of the population derives its living directly or indirectly from the soil, a goodly portion of the cultivable land, perhaps more than half, was not and is not cultivated; that with a little effort and systematic organization, the area under cultivation could be quickly increased, and that with better and more intensive cultivation, the wealth and earning capacity of the country could be substantially in-

[2] Sir Ernest Dowson, *An Inquiry into Land Tenure and Related Questions. Proposals for the Initiative of Reform* (Letchworth, England, [1932]), 11.

[3] Great Britain, Dept. of Overseas Trade, *Iraq Review of Commercial Conditions* (London, 1945), 3. Henceforth cited Great Britain, *Iraq Review*.

[4] U. N., *Review 1949-50*, 45.

[5] Great Britain, Overseas Economic Survey, *Iraq* (London, 1949), 18.

[6] International Bank, *Iraq Mission Report*, 8. The Dept. of Agriculture supplied the Mission with the following statistics: cultivable area about 48.1 million donums—32.1 million in the irrigation zone and 16 million in the rainfall zone; under cultivation about 17.5 million donums, and actually under crops not more than 11.1 million; of these 7.6 in the irrigation zone, and 3.5 million in the rainfall zone. *Ibid.*, 137. For an analysis of the agrarian problem of Iraq, especially the most aggravating one—the tenure aspect—see Gabriel Baer, "The Agrarian Problem of Iraq," *Middle Eastern Affairs*, III, 381-391, Dec., 1952.

64: Shwadran S-4 (no date) 1955 MI Middle East
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creased. Of all the Middle Eastern countries, Iraq has all the necessary requisites for a sound and rapid economic development, especially in the agricultural sector. It has a very considerable quantity of land ready for immediate cultivation, so defined by the most conservative standards, and with modern methods very great stretches now defined as uncultivable could be improved and brought into the cultivable class; it has an abundance of water for irrigation as well as for power, and it has at its disposal enormous quantities of cheap fuel both in petroleum and natural gas.

What, then, have been the economic, educational, health and social conditions of the country? As regards the size and growth of the population, even today, more than thirty years since the creation of the Kingdom of Iraq, it would be very difficult to state categorically the percentage increase of the population. The accuracy of the figure advanced by the October 1947 census has been questioned by the International Bank Mission.[7]

Despite substantial strides in public health—an increased number of hospitals, dispensaries and doctors—during the first thirty years of the existence of the Kingdom, the Bank Mission reported in 1951 that the infant mortality rate was very high, "perhaps as much as 250 per 1,000 births," and that there was a very high incidence of such endemic diseases as trachoma, hookworm, bilharzia, malaria and dysentery. Malaria was reported to cause 50,000 deaths every year. In 1948 no less than 6,657,474 visits to medical institutions for treatment were reported, and 1,291,225 cases of infectious diseases were treated. Of these, 603,698 were malaria and 524,740 trachoma.[8] In 1944 the total number of doctors in the country was 528; in 1951 it was reported that there was one doctor to every 7,000 in the population, which would make a total of about 915 doctors, but a large percentage of them were concentrated in Bagdad.[9]

There can be no doubt that educationally the country progressed considerably from the stage in which it was in 1921, but all in all the sum total was not very impressive; the rate of

[7] International Bank, *Iraq Mission Report*, 126.

[8] *Ibid.*, 49.

[9] *Ibid.*, 53; Hashim Al Witry, *Health Services in Iraq* (1944), 8. In 1945 there were, according to a British report, 569 doctors registered in Iraq. Since 308 were in Bagdad, this made approximately one doctor for every 15,400 in the population in the provinces, and one doctor to every 2,700 in Bagdad. Great Britain, Overseas Economic Survey, *Iraq* (1949), 30-31.

163 lation, and the death rate, 25 to 35. The
165 discrepancies in reporting are probably less in the case of deaths than of births.

On the basis of the health district populations for 1950, the infant mortality rate was calculated at 98 per 1,000 live births. The death rate of infants under 1 year was 14 per cent of the total deaths, and of children under 5 years, about 23 per cent. Local observers estimate that the mortality in infants under 1 year approximates 300 to 350 per 1,000 live births among most rural and impoverished urban communities, and that it reaches almost 500 per 1,000 live births in children under 5 years of age. Intestinal diseases, undernutrition, respiratory infections and malaria are prominent among the causes of death in infancy and early childhood.

Social Economy

241 Agriculture and the petroleum industry together form the basis of Iraq's economy. Although this region was one of the chief granaries of the world centuries before the Christian Era, the present agricultural resources of the potentially fertile Tigris and Euphrates river basins are only partially developed. About 75 to 80 per cent of the inhabitants are engaged in farming or pastoral pursuits, but progress is retarded by the prevailing forms of land tenure, shortage of labor supply and inefficient methods
311 of cultivation. In 1950, less than one fifth
241 of the arable land, normally estimated at 25 to 30 million acres, was under production. Extensive areas of the alluvial plain are cultivated by means of irrigation, but improper drainage often results in consider-
427 able annual loss of soil fertility. A system
423 of tenancy farming predominates in most sections of the country. The proportion of land-owning peasants is small and largely restricted to the northern provinces. In cen-
[444] tral and southern Iraq many families are migratory cultivators who work on a share-cropping basis for wealthy and, usually, absentee landlords.

241 Cereals, tobacco and cotton are important

67: United Nations S-5 (1945-1954) 1955 MI Middle East
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Post-War Period, 1945 to 1954

In the early post-war period there was little development. Petroleum production, and the revenue accruing to the Government therefrom, remained at the pre-war level or below and agricultural and industrial output showed little change. The deficit in the balance of payments was met by drawing on foreign exchange reserves. The Government budget showed deficits, and little was spent on capital works. By 1950, however, the situation began to change. Output of petroleum increased rapidly, and new agreements with the producing companies greatly raised government receipts. With the technical and financial assistance of the International Bank for Reconstruction and Development, a large-scale development plan was drawn up which is at present being carried out. The completion of the various projects under way should result in a considerable increase in the national income.

Production

Agriculture

The increase in area and output achieved during the Second World War was generally maintained during the post-war period (see table 26). In recent years, there seems to have been a further extension in acreage, owing to increased irrigation and greater mechanization. 1/ Yields have continued to fluctuate in response to weather conditions, floods and attacks by locusts and other insect pests; total output has therefore varied considerably from year to year. The experience of recent years, notably that of 1952, has, however, shown that, thanks to the co-operation of other Middle Eastern and foreign governments, locust attacks cause much less damage than they did formerly. Similarly, completion of the irrigation works at present under way should greatly reduce the danger of floods like that of 1954, which destroyed many crops and damaged property.

The agricultural and livestock census 2/ of 1952/53, the first of its kind, puts the total agricultural holdings of Iraq at 6,384,000 hectares, of which

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1/ The number of pumps used in irrigation rose from 2,757, with a total horsepower of 91,332 in 1945, to 4,339, with a horsepower of 167,288 in 1953 (Ministry of Economics, Statistical Abstract 1953 (Baghdad)). In addition, the construction of canals made it possible to extend appreciably the area irrigated by existing dams. Early in 1951, there were 320 combines and 750 tractors (International Bank for Reconstruction and Development, The Economic Development of Iraq, (Baltimore, 1952), page 19). In 1952 and 1953, 625 combines and 502 tractors were sold to farmers; of these over two-thirds were sold in 1953 (Statistical Abstract). There were 2,091 tractors in 1954 (Le Commerce du Levant, 11 August 1954 (Beirut)).

2/ Ministry of Economics, Statistical Abstract 1953 (Baghdad).

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Table 26. Iraq: Area and Production of Principal Crops, 1934-38, 1945, 1948 and 1950 to 1954

Crop	1934-38	1945	1948	1950	1951	1952	1953	1954
Area (thousands of hectares):								
Wheat	661	777	963	950	863	882	1,046	...
Barley	743	826	974	1,000	927	700	1,211	...
Rice	152	194	295	218	189	210	129	...
Cotton	16	...	...	32	44	40	24	...
Production (thousands of metric tons):								
Wheat	478	400	301	545	487	480	762	800
Barley	575	650	570	851	839	800	1,111	700
Rice	205	245	350	242	190	250	200	250
Cotton	2	1	2	8	6	3	4	...
Dates	260	...	301 a/	305	350	370	350	...

Source: Food and Agriculture Organization, Yearbook of Food and Agricultural Statistics (Rome), Monthly Bulletin of Agricultural Economics and Statistics; agricultural census of 1952/53; Le Commerce du Levant (Beirut), 25 December 1954.

a/ 1947.

2,752,000 hectares are rainfed, 2,912,000 irrigated 1/ and 644,000 hectares uncultivable. Of the total, 2,527,000 hectares, or 40 per cent, were cropped; 2,795,000 hectares, or 44 per cent, were left fallow; 128,000 hectares, or 2 per cent, was under fruit trees and vines; 231,000 hectares, or 4 per cent, consisted of pastures; and 42,000 hectares, or 1 per cent, consisted of woodland. Double cropping is practised in a few areas.

The census showed that the area planted to the major field crops was as follows: barley 1,211,000 hectares; wheat, 1,046,000; rice, 129,000; maize, 54,000; cotton, 24,000; millet, 22,000; sesame, 22,000; tobacco, 10,000; vegetables, 45,000; others, 38,000; total, 2,601,000 hectares. Barley is to be found in most parts of the country, while wheat is grown mainly in the north, the provinces of Mosul and Kirkuk accounting for half the total area; cotton and fruit trees are grown mainly around Baghdad and in other central provinces, and rice in the south; date cultivation is concentrated around the town of Basra. 2/

1/ Of this total, 1,685,000 hectares are irrigated by flow, 1,120,000 hectares by pumps and 107,000 by water wheels and other means.

2/ The census put livestock on agricultural holdings as follows: horses, 137,000; cattle, 712,000; buffaloes, 47,000; sheep, 4,484,000; goats, 1,618,000; donkeys, 399,000; camels, 38,000; and mules, 57,000.

433 There has been little change in the crop pattern in recent years. In 1950, under the stimulus of rising world prices, the area planted to cotton increased, but the damage caused by pests, together with the fall in prices, caused heavy losses and led to a shift to other crops. There has also been an extension of the area planted to fruits and vegetables.

242 The Government has taken several important measures to aid agriculture. In 1952, in order to improve the quality of dates, the government-owned Iraqi Dates Association contributed 49 per cent of the capital of a company which will market the crop. In 1953, the Government appropriated funds for the building of grain silos with a capacity of 150,000 tons, in order to improve quality, since low grading depresses export prices. The Agricultural Machinery Administration rents "machinery to farmers and, in addition, is responsible for testing and demonstrating new machinery, licensing of imports and controlling the distribution of the limited supply of spare parts". 1/ The activities of the Agricultural Bank are discussed below.

423 Among the major obstacles to agricultural development has been the land tenure system. The uncertainty of land titles has by now been largely eliminated by the work carried out since passage of the land settlement law of 1932. By the end of 1953, titles to 16,126,000 hectares had been settled; this represented 68.4 per cent of the area of the country, excluding the desert regions. Another obstacle is the unequal distribution of land. The agricultural census showed that there were only 125,000 holdings, with an average area of 51 hectares per holding. Of these, 24,000 holdings were under 1 hectare, 26,000 between 1 and 5 hectares, 16,000 between 5 and 10 hectares and 19,000 between 10 and 20 hectares. Thus, 85,000 holders, or 68 per cent of the total, owned about 3 per cent of the total area. At the other extreme, some 33,000 holders, with over 100 hectares each, owned some 85 per cent of the total area. The majority of the agricultural population is landless.

311 The Government has attempted to remedy this situation by settlement schemes on government-owned land, which accounts for nearly two-thirds of the settled area. Following a successful experiment at Dujaila, 4,284 farmers were settled, in five projects with a total area of 198,000 hectares, and by the end of 1954, 10,200 farmers had been settled on 510,000 hectares. 2/ Farmers are organized in supply and marketing co-operatives. They are given the land free of rent for ten years, after which those who have made good are granted title without charge. 3/ Further projects are under way, including the distribution of 1,125,000 hectares in Mosul province, the distribution of 100,000 hectares near Baghdad, the expansion of the Hawijah settlement and the distribution of land near Basra and along the southern Euphrates. 4/

1/ International Bank for Reconstruction and Development, The Economic Development of Iraq, page 20.

2/ The Iraq Times (Baghdad), 25 October 1954.

3/ For further details see United Nations Department of Economic Affairs, Progress in Land Reform (1954), page 105.

4/ The Iraq Times, 14 December 1954, 4 January 1955, 8 January 1955 and 7 February 1955.